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ABSTRACT

This set of 82 summaries is based on papers written between 1963 and 1982 concerning the Test of English as a Foreign Language (TOEFL). TOEFL is currently required by more than 2,500 colleges and universities in the United States and Canada to determine the English proficiency of applicants whose native language is not English. It is also required by various agencies and boards that accredit and license professionals trained abroad. While a few descriptive papers are included to provide historical background, the summarized papers are primarily research reports. Studies focussing on other instruments which provide data that relate performance on those instruments to TOEFL are also included. The summaries are indexed by nine major categories: (1) TOEFL's relationship to similar, standardized objective English language proficiency tests; (2) TOEFL's relationship to other measures of English language proficiency; (3) TOEFL's relationship to tests of intelligence, academic aptitude, and achievement; (4) TOEFL's relationship to later academic performance; (5) simple relation of TOEFL to student characteristics; (6) complex relations involving student characteristics; (7) statistical analysis involving TOEFL; (8) miscellaneous research issues; and (9) general descriptive papers. Papers are also indexed in 33 subcategories by types of TOEFL results reported. (BS)

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Research Reports

REPORT 16
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Summaries of Studies Involving the Test of English as a Foreign Language, 1963-1982

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ETS
EDUCATIONAL TESTING SERVICE

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The Test of English as a Foreign Language (TOEFL) was developed in 1963 by a National Council on the Testing of English as a Foreign Language, which was formed through the cooperative effort of over thirty organizations, public and private, that were concerned with testing the English proficiency of non-native speakers of the language applying for admission to institutions in the United States. In 1965, Educational Testing Service (ETS) and the College Board assumed joint responsibility for the program and in 1973 a cooperative arrangement for the operation of the program was entered into by ETS, the College Board, and the Graduate Record Examinations (GRE) Board. The membership of the College Board is composed of schools, colleges, school systems, and educational associations; GRE Board members are associated with graduate education.

ETS administers the TOEFL program under the general direction of a Policy Council that was established by, and is affiliated with, the sponsoring organizations. Members of the Policy Council represent the College Board and the GRE Board and such institutions and agencies as graduate schools of business, junior and community colleges, nonprofit educational exchange agencies, and agencies of the United States government.

A continuing program of research related to TOEFL is carried out under the direction of the TOEFL Research Committee. Its six members include representatives of the Policy Council, the TOEFL Committee of Examiners, and distinguished English-as-a-second-language specialists from the academic community. Currently the committee meets twice yearly to review and approve proposals for test-related research and to set guidelines for the entire scope of the TOEFL research program. Members of the Research Committee serve three-year terms at the invitation of the Policy Council; the chair of the committee serves on the Policy Council.

Because the studies are specific to the test and the testing program, most of the actual research is conducted by ETS staff rather than by outside researchers. However, many projects require the cooperation of other institutions, particularly those with programs in the teaching of English as a foreign or second language. Representatives of such programs who are interested in participating in or conducting TOEFL-related research are invited to contact the TOEFL program office. Local research may sometimes require access to TOEFL data. In such cases, the program may provide this data following approval by the Research Committee. All TOEFL research projects must undergo appropriate ETS review to ascertain that the confidentiality of data will be protected.

Current (1982-83) members of the TOEFL Research Committee include the following:

G. Richard Tucker (chair)	Center for Applied Linguistics
Alison d' Anglejan-Chatillon	University of Montreal
Louis A. Arena	University of Delaware
H. Douglas Brown	San Francisco State University
Frances B. Hinofotis	University of California at Los Angeles
Henry F. Holtzclaw, Jr.	University of Nebraska

Summaries of Studies Involving the Test of English as a Foreign Language, 1963-1982

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Abstract

This set of 82 summaries is based on papers written between 1963 and 1982 concerning TOEFL. The papers summarized consist primarily of reports of research involving TOEFL. Also included are a few descriptive papers, which are summarized here to provide a perspective on the history and development of the test. The methods and criteria by which papers were identified for inclusion, as well as a scheme for classification of the papers, are presented in the Introduction.

INTRODUCTION

Background

The Test of English as a Foreign Language (TOEFL) is currently required by more than 2,500 colleges and universities in the United States and Canada to determine the English proficiency of applicants where native language is not English. It is also required by various agencies and boards in the United States and Canada concerned with the accreditation and licensure of professionals trained abroad. Because of its prominence in the field of second language testing, TOEFL has been the subject of continual research since its development in 1963.

Many different issues have been addressed in this research. Studies correlating TOEFL with other standardized tests of English language proficiency have addressed the issue of TOEFL's concurrent validity. Also relevant to concurrent validity are studies correlating TOEFL with performance on cloze tests, dictation measures, oral interviews, writing samples, instructors' ratings, and other direct and indirect indices of English language proficiency. TOEFL's role as a predictor of academic performance has been examined through studies correlating TOEFL with students' grade-point averages. Still other correlational studies have examined the test's relation to measures of aptitude, intelligence, and achievement.

Another general group of studies has been concerned with the performance of different groups of examinees on TOEFL. Within this category are studies of various language or culture groups, studies of special populations, and comparisons of native English speakers' performance on TOEFL with that of nonnative speakers. Still other studies have been concerned with statistical analysis of TOEFL or have addressed such issues as effects of instruction on TOEFL, characteristics of TOEFL candidates, effects of living environment, and others.

In light of the large amount of research that has now been conducted involving TOEFL, the authors, with support provided by the TOEFL Research Committee, have collected information regarding this research. The present document consists of summaries of studies involving TOEFL that have been conducted from its initial development in 1963 through 1982. The studies summarized here include not only those that focus specifically on TOEFL but also studies that focus primarily on other instruments while providing data that relate performance on those instruments to TOEFL. Also, the 1973 and 1981 versions of the TOEFL manuals are summarized here because they present statistical data gathered over several large-scale administrations of the test. The 1973 version presents data for the five-part test (which was in use before 1976; see below), and the 1981 version presents data for the current three-part test. (A 1983 version of the manual is now available but is not summarized here, as it was not available at the time these summaries were compiled.) Also included are a

few published papers that present analyses of TOEFL or describe its history, in order to provide some perspective on the basis for, and procedures followed in, development of the test. This collection has been prepared for use by researchers, test developers, foreign student counselors, admissions officers, teachers of English as a second language, and others who use TOEFL and thus might have an interest in summaries of reports relating to the test.

The collection is a result of a larger effort to identify all papers related to TOEFL that have been written in English, which has resulted in a comprehensive bibliography. This bibliography is to be published in the Modern Language Journal, Volume 67, No. 4, Spring 1984, under the title "A comprehensive TOEFL bibliography, 1963-1982." In developing this bibliography, the authors have identified relevant papers through the following means:

1. A computerized literature search was conducted in December 1981 and updated in January 1983. Data bases for this search included the Educational Resources Information Center (ERIC) system, Psychological Abstracts, Dissertation Abstracts International, Language and Language Behavior Abstracts, Social Science Citation Index, the Modern Language Association International Bibliography on Languages and Linguistics, and the ACTFL Annual Bibliography of Books and Articles on Pedagogy in Foreign Languages, Vol. 1 (1968)--Vol. 8 (1975-76).

2. In April 1982 a letter inquiring about local studies or other research involving TOEFL was sent to all directors of ESL teacher-training programs listed in C. Blatchford (Ed.), Directory of Teacher Preparation Programs in TESOL and Bilingual Education 1978-1981 (Washington, D.C.: TESOL, 1979).

3. In May 1982 a letter of inquiry was sent to 350 specialists in second language testing. This list included all recipients of Language Testing Notes, the newsletter of the Testing Commission of the International Association of Applied Linguistics (AILA).

4. Development of the bibliography was announced at the Language Testing Research Colloquium held at the sixteenth annual TESOL convention in March 1982, with a request for assistance in identifying all relevant studies.

5. During 1982 a call for information regarding relevant studies appeared in the notes and news sections of several professional journals.

6. A draft bibliography was sent in March 1983 for inspection to some 70 specialists in language testing listed on the Language Testing Research Colloquium mailing list with a request for information regarding any missing entries.

In addition, all papers identified in the search were examined for reference to other papers that might be appropriate.

Among the papers that have been identified through this process, research papers falling into the following categories have been included in the present collection: (a) published papers (i.e., journal articles, papers in edited volumes or published proceedings, and so forth); (b) doctoral or master's theses; (c) papers included in institutional technical report series; and (d) papers presented at professional meetings. Although many other unpublished reports have also been identified through the search and are included in the published bibliography, the research papers in the present collection are limited to those falling into one of the four categories listed above. There are undoubtedly other unpublished studies that also deserve consideration, but space and resource limitations dictated that this collection be restricted. It was decided that the selection of studies to be included in this collection should be based on objective criteria as opposed to a subjective assessment of quality by the three researchers who compiled this report. It was reasoned that the papers included here are more likely to have been subjected to some form of review, by peers and other professionals, and this review was viewed as exercising a form of quality control similar to that which might be exercised in a subjective selection process. Peer review and evaluative feedback is common in the preparation of articles for publication in professional journals, and other media, and is also obtained in the process of delivering a paper at a professional meeting. Similarly, the writing of a thesis or dissertation also involves receiving and acting upon evaluative feedback. On the whole, the application of the above-mentioned criteria is believed to have provided a reasonably effective way of selecting appropriate research papers.

Because the primary focus of this collection is upon research, only a few nonresearch papers are summarized. Selected from a larger set of published descriptive or analytic papers about TOEFL, these are papers that appeared to provide the most extensive discussion about the history, development, or use of TOEFL.

In a few instances, two different papers dealing with data from a given study were identified--for example, a thesis as well as a book chapter based on the thesis. In such cases, only one of the two papers is summarized in this collection.

TOEFL

From 1963 to 1976, TOEFL consisted of five subtests: (a) Listening Comprehension, (b) English Structure, (d) Vocabulary, (d) Reading Comprehension, and (e) Writing Ability. Since the September 1976 International administration and since the 1977 Institutional administrations (see definitions below), TOEFL has consisted of three sections: (a) Listening Comprehension, (b) Structure and Written Expression, and (c) Reading Comprehension and Vocabulary. The two forms of the test are described in detail below.

The Five-Part TOEFL

The five-part TOEFL consisted of 200 total items (questions) and required 2 hours and 20 minutes of administration time.[1] The five parts of the test were as follows:

Listening Comprehension (50 items, 40 minutes) measured the examinee's ability to understand spoken English. The oral information was presented via tape recorder. This section consisted of three parts. In the first part (20 items) the examinee heard short questions or statements, then responded by indicating which of four printed alternatives best answered the question or paraphrased the statement heard. In the second part (15 items), the examinee heard a short dialogue followed by a question about the dialogue and marked the printed statement that best answered the question. In the third part (15 items), the examinee heard a simulated university lecture eight minutes in length and was allowed to take notes. Terms that were used in the lecture were printed on a separate page that was provided for note taking. The lecture was followed by several questions and, after hearing each question, the examinee selected the best answer to the question from four printed alternatives.

English Structure (40 items, 20 minutes) measured the examinee's mastery of important structural and grammatical points in spoken English. In each item, a short printed conversation between two speakers, part of which had been omitted, was presented. The examinee chose, from four printed alternatives, the word or phrase that correctly completed the conversation.

Vocabulary (40 items, 15 minutes) measured knowledge of word meanings. This section contained two types of items. For each item of the first type (15 items), a sentence was presented in which one word had been omitted, and the examinee selected, from the four alternatives provided, the one word that best completed the sentence. In each item of the second type (25 items), a phrase was presented and the examinee selected, from four options, the word or phrase with most nearly the same meaning as the given word or phrase.

Reading Comprehension (30 items, 40 minutes) measured the examinee's ability to read and understand English prose, including the ability to make inferences and draw conclusions. Several passages were presented, and the examinee answered several four-option multiple-choice questions based on each passage.

Writing Ability (40 items, 25 minutes) tested the examinee's ability to recognize effective style and appropriate usage and diction in written

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[1] In certain test administrations, additional items were included as experimental items for purposes of test equating. These added items were not part of the basic test, however, and were not counted in deriving the examinee's score.

English. This section contained two types of items. For each item of the first type (25 items), the examinee read a sentence in which four different words or phrases had been underlined, each marked with a different letter from A to D. The examinee selected the letter corresponding with the word or phrase that would not be accepted in standard written English. In each item of the second type (15 items), the examinee read a sentence containing a blank where a word or phrase had been deleted. The examinee chose, from four alternative words or phrases, the one that best completed the sentence.

The Three-Part TOEFL

This form of TOEFL, which is currently in use, consists of 150 items and requires 1 hour and 45 minutes of actual testing time. (As with the five-part TOEFL, these figures apply to the basic test; additional items are included in certain administrations for purposes of test equating.)

The three-part TOEFL is similar to the five-part test, except that certain sections have been combined, and certain types of items within sections have been deleted or revised. (See Summary No. 62, Pike, 1979, for discussion of the empirical basis for revision of the test.)

Listening Comprehension (50 items, 35 minutes) measures the ability to understand English as it is spoken in the United States. This section contains three parts, with the oral material presented via tape recorder in each part. For each item in the first part (20 items total), the examinee hears a short statement and then chooses the printed sentence (of four) that is closest in meaning to the one heard. For each item in the second part (15 items total), the examinee hears a short conversation between two speakers, which is followed by a question asked by a third voice. The examinee must choose, from four printed phrases, the one that best answers the question heard. For each item in the third part (15 items total), the examinee hears a short talk, conversation or presentation, such as a simulated news broadcast, short lecture, or public announcement. The speech segment is followed by several orally presented questions and, for each question, the examinee must choose, from four printed phrases, the best answer to the question.

Structure and Written Expression (40 items, 25 minutes) measures mastery of important structural and grammatical points in standard written English. The language used in this section is more formal than that of the Listening Comprehension section, and the topics are of a general academic nature. This section consists of two parts. For each item in the first part (15 items total), the examinee reads a sentence from which a word or phrase has been deleted. The examinee must choose, from four words or phrases, the one that best completes the sentence. For each item in the second part (25 items total), the examinee reads a sentence in which four words or phrases are underlined, marked A, B, C, and D. The examinee must identify the one underlined word or phrase that would not be accepted in standard written English.

Reading Comprehension and Vocabulary (60 items, 45 minutes) measures the ability to understand the meanings and uses of words as well as the ability to understand a variety of general reading materials. For each item in the vocabulary part (30 items total), the examinee reads a sentence in which one word or phrase is underlined. The examinee must then select, from four words or phrases, the one that best preserves the meaning of the sentence if substituted for the underlined word or phrase. In the reading comprehension part (30 items total), the examinee reads a variety of short passages, each of which is followed by questions about the meaning of the passage. For each question, the examinee must choose the printed word or phrase that best answers the question.

The Testing Programs

TOEFL is administered under four separate testing programs: the International Testing Program, the Special Center Testing Program, the Institutional Testing Program, and the Overseas Institutional Testing Program. Under the International Testing Program, TOEFL is given at test centers around the world on six regularly scheduled Saturday test dates a year. Most applicants who need TOEFL scores for application to study in the United States or Canada take the test under this program. International test administrations are provided both at overseas testing centers (i.e., those outside the United States and Canada) and at domestic testing centers (those within the United States and Canada).

TOEFL is offered under the Special Center Testing Program six times a year, on regularly scheduled Friday test dates, in those months in which International Testing Program administrations are not offered. Like International administrations, Special Center administrations are offered at both overseas testing centers and domestic testing centers.

In the Institutional Testing Program, test forms previously used in the International and Special Center testing programs are made available to institutions. The institutions administer the test to their students, primarily for the purpose of placing the students at appropriate levels of an English language program or for determining the students' need for additional work in English. This service is provided in the United States and Canada. In other countries a similar service is provided through the Overseas Institutional Testing Program.

Nature of the Summaries

The preceding sections provide background relating to the administration of TOEFL that is necessary for understanding the methodology of the studies summarized in this collection. We now turn to a description of the summaries, with a brief overview of their structure and content.

In each of the summaries, we have sought to present a reasonably accurate recapitulation of the points made in the original paper. The reader is apprised that these summaries are not intended to be evaluative. Each summary has been written from the perspective of the author or authors, with the details of method, results, and conclusions summarized as presented by the author. Thus, all statements of interpretation or conclusion presented here are those of the author. It is left for the reader to draw his or her own conclusions as to the quality of each individual study. Because we are employed by the organization that publishes TOEFL, we felt that it might be inappropriate to evaluate critically the studies contained herein. However, we have occasionally interjected comments; where we have done so, we have enclosed them in square brackets to differentiate them from the summary of the author's statements. These observations are generally not of an evaluative nature, however, but are merely designed to note aspects of each study--usually methodological details--that may be unclear or missing from the report.

It would be useful for the reader to keep in mind, in examining these summaries, that some studies may be more thorough than others. Thus, whether a given study's results lend themselves to firm conclusions may depend on a number of aspects of the methodology employed in the study. For each study summarized here we have attempted to provide detail that might aid the reader in this regard, including the size of the sample, the nature of the sample, the circumstances of test administration, and so forth. But it must be reemphasized that this collection is not intended to serve the function of a critical review. Rather, its objective is to call to the reader's attention the studies that have been done involving TOEFL (as well as some background papers), and to give a general overview of each study's method and results. The reader who wishes to look further into these studies is encouraged to read the original papers; the classification scheme offered here should be of help in identifying studies of particular interest.

Many of the studies summarized here focus specifically on TOEFL. In some of the studies, however, TOEFL has played only a minor role. In the latter cases, we have focused principally on aspects involving TOEFL and have provided a relatively brief discussion of other aspects. Some studies, particularly theses, have presented extensive introductory material and reviews of the literature; in such cases, we have generally focused on the empirical aspect of the papers, condensing the introductory material into short statements of background.

In almost every summary, we indicate which version of TOEFL was used, the five-part or the three-part. In some of the reports summarized, however, the author did not indicate which version was used and, in these instances, we have indicated in brackets our assumption as to which was used, usually based on the date of testing. Also, where relevant information was available, we report the type of administration that served as the source of TOEFL scores reported--i.e., (a) International, (b) Special Center, (c) Institutional, (d) Overseas Institutional, or (e) experimental administration. Where the source was not presented and the report

simply indicated that TOEFL scores were available (for students now enrolled in a U.S. college or university), we indicate in brackets our assumption that the TOEFL scores were derived from International or (after 1977) Special Center administrations prior to matriculation, since such administrations are the principal sources of TOEFL scores in institutional records.

Where information was provided about tests or other instruments used, this information has been summarized. In some reports a test was not described, but a description of the test often could be found in another report. In such cases, the reader is referred to the summary of the latter report for a test description.

In a few instances the format of a test may have changed over time. Wherever a test description is provided in a summary here, it is intended to summarize the author's description of the test at the time the description was written. Also, the names of some tests mentioned in reports summarized here may have changed since the reports were written. Wherever this is true, the name in use at the time the report was written is used here. A notable example is the Graduate Record Examinations Aptitude Test, which, in 1982, was renamed the Graduate Record Examinations General Test. The original name is retained throughout this collection, as it was the name in use when the studies employing the test were conducted.

One measure that has been used frequently throughout these summaries is grade-point average (GPA). This measure has not been explicitly defined in many reports, perhaps because common conventions are used in computing GPA and authors have not thought it necessary to provide explanation. Typically, students in U.S. colleges and universities are given letter grades A, B, C, D and F, which are assigned numbers 4, 3, 2, 1, and 0, respectively. A student's GPA for a given period of time (e.g., semester, year) is a weighted average of all grades assigned in that time period, where the weight for a given grade is the number of credit hours associated with that grade. Although there are variations to this system (e.g., pluses and minuses attached to the letter grades are taken into account; certain courses are not counted), the basic concept of the GPA is assumed to be the same in all studies in which GPA is used as a variable.

Each summary begins with the bibliographic reference to the report on which the summary was based. The style of the bibliographic reference follows that recommended in American Psychological Association (1983), Publication Manual of the American Psychological Association (3rd ed.). Washington, DC: Author. The headings used in the summaries were devised for use in this collection and follow the style typically used in research papers. Headings used for empirical papers here are Purpose, Method, Results, and Conclusions (or Results and Conclusions as a single section). An additional section, entitled Background, is included in cases, such as theses, in which the report includes extensive introductory material. Other headings are also used in a few other instances. In the case of descriptive papers and the two versions of the TOEFL manual, a short Purpose section is followed by a single section entitled Discussion.

In some summaries, one or more papers are cited in the text. Bibliographic references for the cited papers are provided in footnotes. If no bibliographic reference is provided, the paper is among those summarized in this collection, and the reader can turn to the appropriate summary for the bibliographic reference.

We believe this collection to be a nearly complete set of summaries of reports written prior to 1983 that fit the above-mentioned criteria. The TOEFL program is interested in studies relating to TOEFL that may be conducted in the future and would like to request the author of any such study to send a copy of his or her article to the Research Coordinator, TOEFL Program Office, Educational Testing Service, Princeton, NJ, 08541-0001, USA.

Classification of Reports

General Categories

The reports summarized here fall into logical groups, such as (a) studies of TOEFL's relation to similar, standardized tests of English proficiency; (b) its relation to other indices of language proficiency; (c) its relation to later academic performance, and so forth. Presented below is a classification scheme that lists the principal categories into which the summaries can be placed. Below each category name are several numbers, which refer to reports summarized in this collection. The numbers under a given category name indicate the reports in which the principal issue under study relates to that category. In the case of a few reports, two or sometimes three issues comprise the principal focus of the report, and in these cases the report is listed under both or all three categories. Each general category is described below by a phrase with a few examples. For more comprehensive definitions of the categories the reader is referred to the subsequent section, "Index of Reported Results."

A The relation of TOEFL to similar, standardized objective tests of English language proficiency (e.g., ALI/GU, CELT, MTELP--see list of abbreviations below)

Reports: 24, 36, 42, 51, 58, 59, 68, 81

B The relation of TOEFL to other measures of English language proficiency (e.g., cloze test, interview, essay)

Reports: 19, 20, 23, 25, 29, 30, 32, 38, 39, 44, 47, 48, 49, 52, 53, 54, 62, 63, 67, 74

C The relation of TOEFL to tests of intelligence, academic aptitude, and achievement (e.g., common admissions tests such as ACT and SAT; reading achievement tests)

Reports: 2, 6, 8, 24, 29, 61, 64, 65, 68, 69

D The relation of TOEFL to later academic performance (e.g., correlation of TOEFL with college grade-point average, or GPA; combination of TOEFL with other variables in predicting GPA)

Reports: 1, 4, 5, 11, 13, 15, 17, 33, 35, 36, 37, 50, 55, 59, 66, 68, 70, 71, 72, 75, 77, 78

E Simple relation of TOEFL to student characteristics (e.g., native language, country, or region; sex; educational level)

Reports: 6, 9, 12, 16, 18, 41, 43, 46, 79, 80

F Complex relations involving student characteristics--i.e., differences in patterns of results involving TOEFL as a function of student characteristics (e.g., native language, country, or region; sex; educational level)

Reports: 10, 26, 51, 76, 80

G Statistical analysis involving TOEFL (e.g., correlations among the TOEFL subtests; factor analysis involving TOEFL)

Reports: 3, 21, 22, 26, 27, 28, 33, 42, 56, 76

H Miscellaneous research issues (e.g., effects of living environment on TOEFL performance; relation of TOEFL to admissions decisions)

Reports: 14, 31, 34, 73

I General descriptive papers (e.g., history and development of TOEFL; TOEFL manuals)

Reports: 7, 27, 28, 40, 45, 57, 60, 82

Index to Reported Results

The above classification scheme lists each paper according to the category that comprises the principal focus of that paper, as it relates to TOEFL. In many of the reports summarized, however, TOEFL-related results that are secondary or incidental to the main focus are also presented. The following listing identifies all instances in which results pertaining to TOEFL are presented, whether or not they bear on the principal issue under study. For this purpose, a detailed subclassification scheme has been developed. Under each general category heading, a list of subcategories is presented, each of which is designated by a letter-number combination. Following each subcategory name (or following each example where there are two or more examples within a subcategory) are listed the numbers assigned to reports whose summaries contain data relevant to that subcategory. This listing thus serves as an index to reported results involving TOEFL. As a further aid to the reader, each

individual summary contains (in the upper-right corner of the summary's first page) the letter-number combinations pertaining to all relevant subcategories of results presented in that summary.

A The relation of TOEFL to similar, standardized objective tests of English language proficiency

A1 commonly used tests: ALI/GU (4); CELT (42); MTELP (1, 24, 59, 68)

A2 miscellaneous tests: experimental objective tests (62); Lado tests (17); SC/GCE (58); TOPIC (81); UCB/EFL (51); WAIS-R Vocabulary test (36)

B The relation of TOEFL to other measures of English language proficiency

B1 cloze test (23, 25, 29, 39, 44, 54, 62, 65, 66, 67)

B2 interview (1, 19, 20, 32, 38, 52, 62) and TSE (19, 20)

B3 essay tests (58, 62, 63)

B4 grades in ESL classes (37, 42, 43); teachers' or other faculty members' ratings of English proficiency (24, 47, 68, 77)

B5 dictation test (44); noise test (32, 74)

B6 rewriting task (30, 62)

B7 miscellaneous measures: article usage indices (49); editing test (53); experimental oral listening comprehension test (48); Holtzman Stress-unstress test (38); IMOP (38); oral cloze test (74); placement in ESL courses (42)

C The relation of TOEFL to tests of intelligence, academic aptitude, and achievement

C1 common admissions tests: ACT (9, 24, 46); GMAT (64, 80); GRE (6, 8, 11, 70, 71, 80); LSAT (68); SAT (2, 8)

C2 reading tests: Informal Reading Inventory (65); Iowa test (61); McGraw-Hill test (29, 61); Nelson-Denny test (61); Perkins-Yorio test (29)

C3 miscellaneous tests: ITED (69); Raven's Progressive Matrics Test (29); SC/GCE achievement tests (58); TSWE (8)

D The relation of TOEFL to later academic performance

D1 simple correlation of TOEFL with grade-point average (GPA) (1, 4, 5, 11, 13, 15, 17, 23, 33, 35, 36, 37, 40, 43, 50, 51, 55, 66, 68, 70, 71, 72, 75, 78)

D2 combination of TOEFL with other variables in predicting GPA (5, 11, 15, 33, 68, 70, 72, 75, 78)

D3 miscellaneous: relation of TOEFL to instructors' ratings of performance (77); relation of TOEFL to self-reported GPA (64)

E Simple relation of TOEFL to student characteristics

E1 native language, country, or region (3, 26, 41, 47, 62, 75, 76)

E2 sex (12, 41, 43, 47, 55, 79)

E3 educational level (1, 8, 12, 69, 79)

E4 major area of study (43)

E5 native American vs. foreign (9, 46); performance of native American students (6, 18)

E6 miscellaneous characteristics: age (1); currently U.S. citizen vs. non-U.S. citizen (80); deaf vs. hearing parents, of deaf examinees (16); English as primary vs. second language (80); ethnic group (12, 55); occupation in home country (77); parents' education (55); planned degree (47); previous grades (1); reported vs. did not report TOEFL scores to institutions (79); social adjustment (69); TOEFL repeater vs. nonrepeater (79); TOEFL taken in foreign vs. domestic center (79); type of secondary school attended (55)

F Complex relations involving student characteristics--i.e., differences in patterns of results involving TOEFL as a function of student characteristics

F1 native language, country, or region (3, 4, 10, 26, 51, 59, 62, 64, 76)

F2 sex (43, 47, 51, 78)

F3 educational level (4, 35, 51, 75, 78)

F4 major area of study (35, 43, 51, 70, 78)

F5 miscellaneous characteristics: English as primary vs. second language (80); planned degree (47); sponsored vs. nonsponsored (17)

G Statistical analysis involving TOEFL

G1 correlations among TOEFL subtests (1, 20, 27, 28, 33, 42, 48, 58, 62, 63, 74)

G2 factor analysis involving TOEFL (26, 33, 42, 56, 58, 69, 74, 76)

G3 test equating (21, 22)

G4 item comparisons (3, 9)

H Miscellaneous research issues: characteristics of TOEFL candidates (79); effects of instruction on TOEFL (33, 41, 52, 68, 77); effects of item disclosure on TOEFL (34); effects of living environment on TOEFL performance (46, 73); relation of actual TOEFL scores to self-reported TOEFL scores (64); relation of TOEFL to admissions decisions (14, 31); relation of TOEFL to self-evaluation of English proficiency (4)

I General descriptive papers

I1 history and development of TOEFL (7, 45, 57, 60)

I2 TOEFL manuals (27, 28)

I3 the role of TOEFL in admissions decisions (40, 82)

Abbreviations Used

Throughout this collection, certain abbreviations are used. Some of these abbreviations, such as letters representing statistical terms, are so common that they are presented without definition wherever they are used. Most other abbreviations used here are acronyms of tests. These abbreviations are defined at the beginning of any summary in which they appear. However, it is useful also to present a list defining all abbreviations and acronyms, so that the reader may refer to this list as a reminder when necessary. The following list presents the full names associated with all abbreviations and acronyms used in the summaries.

Statistical symbols and terms

F -- F test, generally from analysis of variance

g -- general factor

KR-20 -- Kuder-Richardson reliability, formula 20

KR-21 -- Kuder-Richardson reliability, formula 21

N -- number of subjects (If presented in parentheses after a statistic, this indicates the number of subjects on which the statistic was based.)

ns -- not significant

p -- probability level, or significance level

r -- Pearson product-moment correlation

R -- multiple correlation

SD -- standard deviation

t -- Student's t, generally used as test of difference between means

General Terms and Organizational Acronyms

AACRAO -- American Association of Collegiate Registrars and Admissions Officers

AID -- Agency for International Development of the U.S. Department of State

CAL -- Center for Applied Linguistics

CEEB -- College Entrance Examination Board (now the College Board)

EFL -- English as a foreign language

ESL -- English as a second language

FTS -- Educational Testing Service

GPA -- grade-point average

GREB -- Graduate Record Examinations board

IRT -- item response theory

JAN -- Judgment Analysis Technique

Acronyms for Tests and Other Measures

ACT -- American College Test

ALI/GU -- Test of the American Language Institute at Georgetown University

CELT -- Comprehensive English Language Test for Speakers of English as a Second Language

CESL (SIU) -- Test of the Center for English as a Second Language at Southern Illinois University

ELSA -- English Language Skills Assessment in a Reading Context

EPE -- English Placement Examination

ESLAT -- English as a Second Language Achievement Test

FSI -- Foreign Service Institute; used here in reference to the FSI interview, which is currently referred to as the Interagency Language Roundtable (ILR) interview

GMAT -- Graduate Management Admission Test

GRE -- Graduate Record Examinations

IMOP -- Indirect Measure of Oral Output

ITED -- Iowa Test of Educational Development

LCPT -- Listening Comprehension Picture Test

LSAT -- Law School Admission Test

MTELP -- Michigan Test of English Language Proficiency

PAA -- Prueba de Aptitud Académica

SAT -- Scholastic Aptitude Test of the College Board

SC/GCE -- Examination for the School Certificate and General Certificate of Education of the West African Examinations Council

SLEP -- Secondary Level English Proficiency Test

STEL -- Structure Tests for English Language

TOEFL -- Test of English as a Foreign Language

TOEIC -- Test of English for International Communication

TSC -- Tennessee Self-Concept Scale

TSE -- Test of Spoken English

TSWE -- Test of Standard Written English

UCB/EFL-- University of California, Berkeley, Test of English as a Foreign Language

WAIS-R -- Wechsler Adult Intelligence Scale, Form R

SUMMARIES A1, B2, D1, E3, E6, G1

1. Abadzi, J. (1976). Evaluation of foreign students [sic] admission procedures used at the University of Alabama (Doctoral dissertation, University of Alabama, 1975). Dissertation Abstracts International, 36, 7754A. (University Microfilms No. 76-13, 884)

Purpose

As part of an examination of the admissions process for foreign students at the University of Alabama, this study investigated the relation between academic performance at the university and several variables, including the score on TOEFL and on other measures of English proficiency. Also examined were effects of such background variables as age, country of origin, undergraduate vs. graduate status, and major field. Of many analyses, those pertaining specifically to TOEFL are emphasized in this summary.

Background

Previous research has suggested a relationship between some of the above-mentioned variables and academic success. The few studies located relating academic performance to tests of English proficiency showed generally low correlations. Studies relating foreign students' academic success to their performance on American admissions tests also showed relatively low correlations. Research using TOEFL as a moderator variable along with admissions tests has often yielded inconclusive results.

Method

The subjects were 70 foreign students (60 males and 10 females) who entered the University of Alabama in fall 1974 (N = 37) or spring 1975 (N = 33). Fifty-three were undergraduates and 17 were graduate students. The subjects ranged in age from 17 to 36 years and represented 28 different countries. Several different major fields were represented, with the modal number of subjects majoring in engineering (N = 34). The mean total TOEFL score of the sample was 548, with mean subtest scores ranging from 52 to 57.

Individual interviews were conducted during the week preceding registration with the 31 subjects who had just arrived in the United States. (The others had been in the United States for several months or years.) These subjects were asked some general questions then listened to

a simulated lecture of approximately 180 words and recalled what they understood of it. Approximately two months later a second interview was conducted with these 31 subjects, and the same simulated lecture was used. The subjects were rated by two judges on three five-point scales: fluency (F), pronunciation (P), and comprehension (C) (i.e., recall of the passage). Agreement between judges was high, as the coefficients of correspondence ranged from .93 to .99 for the six scores (i.e., three scales for each of two administrations).

All but eight of the 70 subjects took the Michigan Test of English Language Proficiency (MTELP) on arrival at the university. The eight subjects who did not take the MTELP were assigned the mean scores for their countries on this test for purposes of data analysis. A composite score based on the three subtests was used in the data analyses.

The MTELP is a multiple-choice test consisting of three sections: Grammar, Vocabulary, and Reading Comprehension. In the Grammar section, each item consists of a statement with a deleted word or short phrase, and the examinee must choose, from four alternatives, the missing word or phrase. In the Vocabulary section, each item is either a sentence with a deleted word or a sentence with an underlined word, and the examinee must identify, from four choices, the deleted word or a synonym for the underlined word. The Reading Comprehension section consists of several reading passages, and each passage is followed by several multiple-choice questions testing factual understanding or inference. [description paraphrased from a recent publication related to the MTELP]

Data from the five-part TOEFL [presumably from International administrations] were available for 25 of the subjects (TOEFL scores were generally not available for students who had previously attended institutions in the United States or Britain or for certain other students).

The grade-point average (GPA) and number of credit hours taken in the first semester were tabulated for each of the 70 subjects. The GPA and credit hours in the second semester were tabulated for each of the 33 subjects who entered in fall 1974. For all 70 subjects, an estimation of previous academic performance [presumably performance in the institution the student had just attended, whether in the United States or other country] was obtained by transforming the subject's grade into a number on a six-point scale equivalent to the U.S. grades A, B+, B, C+, C, and D. Also, for the 19 subjects who had transferred to the university from a junior college, the average junior college grade was calculated.

All of the above-mentioned variables were submitted to correlational analysis, along with two other variables: age and undergraduate vs. graduate status.

Results

Correlations of the various measures used in the study with the TOEFL subscores, TOEFL total score, and MTELP score are presented in Table 1; only those correlations exceeding .30 are reported. Note that the TOEFL subtests, abbreviated in the table, are Listening Comprehension (LC), English Structure (ES), Vocabulary (V), Reading Comprehension (RC), and Writing Ability (WA).

In addition, analyses were conducted to determine the effects of geographic area, major field, and classification (undergraduate, graduate, transfer from abroad, transfer from junior college) (N = 70 in each case). These analyses revealed differences as a function of the variables listed, particularly with regard to first-semester GPA. Graduate students had the highest mean GPA (2.46) and junior college transfers the lowest mean GPA (1.12). Among major field groups, science majors had the highest mean GPA (2.21), perhaps because most science majors were graduate students. Among the countries represented, subjects from Taiwan had a relatively high mean GPA (2.42), perhaps because they were almost all graduate students.

Multiple regression analyses were performed involving several variables; those involving TOEFL will be briefly mentioned. Prediction of the TOEFL score from the MTELP score and the interview ratings yielded a significant multiple R of .82. [The N for this analysis is unclear.] Prediction of the MTELP score from the TOEFL subscores and total score yielded a significant multiple R of .85 (N = 25), with each subscore contributing substantially to the prediction. Prediction of first-semester GPA from the TOEFL subscores and total score yielded a multiple R of .67, which was not significant, probably because of the low N (25).

For the 31 subjects interviewed, there was an improvement in ratings over the approximately two-month period between interviews. For the 33 subjects who had both first- and second-semester GPA scores, a t test showed the latter to be significantly higher than the former; also, the number of credit hours carried increased significantly from first to second semester for these subjects.

Conclusions

Conclusions from this study must be regarded as tentative due to the small number of subjects involved. First-semester GPA correlated moderately highly with the total TOEFL score; also, the correlation between first-semester GPA and the MTELP score, although only .29 (and thus not appearing in Table 1), was significant. These data suggest that there is some relationship between English proficiency and initial academic performance. Correlations involving second-semester GPA were generally

Table 1

Correlations Involving TOEFL and the MTELP
with Absolute Values of .30 or Greater

Variable	N	TOEFL Subtest LC	ES	V	RC	WA	TOEFL Total	MTELP
Age	a	-.73					-.32	-.30
Grad. (0) vs. U'grad. (1)	a	-.54						
Semester 1 GPA	a		.45	.32	.50	.52	.43	
Semester 1 No. hours	a	.53	.35	.32			.40	
Semester 2 GPA	b			.34				
Semester 2 No. hours	b			-.38				
Previous average grade	25		-.36				-.38	
Average grade--Jr. Coll.	b	.75	.86		.66		.85	
Interview-F (admin. 1)	b	-.40						-.59
Interview-P (admin. 1)	b	-.42						-.65
Interview-C (admin. 1)	b	-.52						-.64
Interview-F (admin. 2)	b	-.47		-.30			-.30	-.70
Interview-P (admin. 2)	b							-.60
Interview-C (admin. 2)	b	-.49		-.30				-.68
TOEFL LC	25		.35	.33	.46		.62	.49
TOEFL ES	25				.69	.67	.81	.64
TOEFL V	25				.69	.67	.8	.71
TOEFL RC	25			.73			.89	.72
TOEFL WA	25						.80	.65
TOEFL Total	25							

[a] Ns are 25 for correlations involving TOEFL and 70 for correlations involving the MTELP.

[b] [Not reported are the numbers of subjects taking TOEFL among students for whom second-semester GPA data are available; among transfers from junior colleges; or among students who were interviewed.]

lower than those involving first-semester GPA (even though the GPAs of the two semesters were relatively highly correlated with each other--r = .76). For correlations involving TOEFL this difference can be seen in Table 1, for the MTELP, the correlation dropped from a significant .29 to .00. These results suggest that, while foreign students' initial grades are related to their English proficiency, their grades become increasingly independent of their initial level of proficiency.

The intercorrelations among TOEFL subscores and TOEFL total ranged from .20 to .88 [note, however, that the maximum r shown in Table 1 is .89], suggesting that TOEFL is a well-structured test, with the subtests showing some relationship to each other but, at the same time, measuring somewhat different aspects of English knowledge. The correlation of .79 between the MTELP and TOEFL scores is consistent with earlier research showing a relatively strong relationship between these two measures of English proficiency.

2. Alderman, D. L. (1982). Language proficiency as a moderator variable in testing academic aptitude. Journal of Educational Psychology, 74, 580-587. (Also TOEFL Research Rep. No. 10, 1981; ETS Research Rep. No. 81-411. Princeton, NJ: Educational Testing Service.

Purpose

This study examined the role of language proficiency in testing academic aptitude and, specifically, tested the hypothesis that proficiency in a second language acts as a moderator variable in accounting for verbal aptitude scores on tests given in that language.

Method

A total of 361 nonnative English-speaking students at three public and three private secondary schools in San Juan, Puerto Rico, participated in the study. In exchange for a fee waiver on the tests and a nominal stipend, in November 1980 each student took the College Board Scholastic Aptitude Test (SAT), the Prueba de Aptitud Académica (PAA), and the three-part TOEFL.

The SAT is a multiple-choice test written for applicants to U.S. colleges and universities. It consists of verbal and mathematical aptitude sections and the Test of Standard Written English (TSWE). The SAT verbal section includes analogies, antonyms, reading comprehension, and sentence completion items; the mathematical section measures ability to solve problems involving arithmetic reasoning, algebra, and geometry. The TSWE is a test for native speakers of English that assesses knowledge of the conventions of standard written English; it contains questions involving the correction of sentences and questions involving English usage in an error recognition format. The PAA contains verbal and mathematical aptitude sections parallel to those found in the SAT and a test entitled the English as a Second Language Achievement Test (ESLAT). The ESLAT is written for nonnative speakers of English and contains questions on grammar and reading comprehension.

A regression analysis of SAT scores on PAA and TOEFL scores was performed to determine the significance of the interaction between the PAA and TOEFL in accounting for scores on the SAT. A significant increase in explained variance with the addition of a product term representing this interaction would confirm the expectation that student proficiency in a second language moderates performance on the SAT.

Results and Conclusions

Table 1 displays the regressions of aptitude test scores obtained in a second language (SAT) on aptitude test scores obtained in a first language (PAA) and measures of second language proficiency (TOEFL, ESLAT, TSWE). The two left-most columns of values show an increase in the multiple correlation ($\underline{R}$) and explained variance ($\underline{R}^2$) as each independent variable is entered into the regression. The regression coefficients given in the table are the raw (b) and standardized (B) weights for the three independent variables. The final column indicates whether the inclusion of the dependent variable produced a significant increase in the amount of explained variance for the dependent variable.

It is apparent that both TOEFL and the ESLAT accounted for significant increases in the variance in SAT scores beyond that explained by parallel aptitude tests in the examinee's native language. TOEFL alone explained an additional 30 percent of the total variance on the SAT-V and about 10 percent of the total variance on the SAT-M. This finding supports the hypothesis that proficiency in a second language plays a significant role in scores on aptitude tests administered in the second language. Thus, when taking aptitude tests in English, students apparently need a fairly high level of proficiency in English to adequately demonstrate their aptitude. Scores on language proficiency tests such as TOEFL should be taken into consideration as institutions make foreign-student admission and placement decisions based on academic aptitude tests given in English.

Table 1

Regressions of Aptitude Test Scores in Second Language (SAT) on Aptitude Test Scores in First Language (PAA) and Measures of Second Language Proficiency

Dependent Variable	Multiple Correlations R	R^2	Independent Variables	Regression Coefficients b*	β	se_β	Statistical Test of Moderator Effect
SAT-V	.6655	.4429	PAA-V	-.8303	-.97	.10	
	.8568	.7341	TOEFL	-.8329	-.94	.14	
	.8934	.7982	TOEFL × PAA-V	.0025	2.57	.00	F (1,357) = 113.39*
			(constant)	490.8048			
SAT-V	.6655	.4429	PAA-V	-.7913	-.92	.09	
	.8022	.6436	ESLAT	-.7916	-1.21	.10	
	.8615	.7423	ESLAT × PAA-V	.0021	2.75	.00	F (1,357) = 136.70*
			(constant)	508.1330			
SAT-V	.6655	.4429	PAA-V	.0952	.11	.08	
	.8790	.7727	TSWE	2.2814	.23	2.26	
	.8805	.7754	TSWE × PAA-V	.0071	.58	.00	F (1,357) = 4.216
			(constant)	68.4927			
SAT-M	.7955	.6328	PAA-M	-.6207	-.70	.11	
	.8514	.7248	TOEFL	-1.2147	-1.17	.16	
	.8871	.7870	TOEFL × PAA-M	.0026	2.56	.00	F (1,357) = 104.26*
			(constant)	558.7010			
SAT-M	.7955	.6328	PAA-M	-.5502	-.62	.10	
	.8259	.6821	ESLAT	-1.0554	-1.30	.11	
	.8777	.7703	ESLAT × PAA-M	.0022	2.60	.00	F (1,357) = 137.16*
			(constant)	540.7829			
SAT-M	.7955	.6328	PAA-M	.0664	.07	.09	
	.8615	.7422	TSWE	-9.0486	-.77	2.69	
	.8718	.7601	TSWE × PAA-M	.0200	1.51	.00	F (1,357) = 26.69*
			(constant)	236.5505			

*$p < .01$

3. Alderman, D. L., & Holland, P. W. (1981). Item performance across native language groups on the Test of English as a Foreign Language. (TOEFL Research Rep. No. 9; ETS Research Rep. No. 81-16.) Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 218 922)

Purpose

A special chi-square statistic was used to determine the sensitivity of TOEFL items to differences in native languages of examinees. Differences among six language groups were assessed for every item on each of two TOEFL forms.

Method

The subjects were 12,379 examinees from six language groups: African, Arabic, Chinese, Germanic, Japanese, and Spanish. The African group combined four languages: Efik, Fanti, Ibo, and Yoruba; the Germanic group combined Danish, Dutch, German, and Swedish. The data for analysis were based on two International administrations of the three-part TOEFL, one in November 1976 and the other in November 1979.

In the principal analysis, data for each test were submitted to chi-square analysis to determine each item's sensitivity to language differences. In addition, specialists in English as a second language (ESL) were asked to examine the results of the analysis based on the first of the two test administrations and (a) to suggest explanations for items with high sensitivity to language differences and (b) to identify items from the second test administration that they believed would be most sensitive to differences among the language groups.

Results and Conclusions

Approximately seven-eighths of the items in each TOEFL form showed a significant degree of sensitivity to language differences according to the chi-square analysis. The items that were most sensitive were those in the Reading Comprehension and Vocabulary section, particularly in the first test administration. It is suggested that knowledge of specific words in single sentences and reading passages may be more susceptible to linguistic contrasts than are either aural skills or syntactic rules.

Subjects in each language group were placed into 10 strata according to their overall TOEFL scores. Analyses showed that the relative advantages and disadvantages for different language groups were relatively stable across strata.

Analysis of overall test scores showed that the two language groups with the highest test scores were the Germanic and Spanish groups, the two with the closest affinity to the English language. The rank order of language groups varied somewhat by test section, however; the two highest ranking groups for Listening Comprehension and for Reading Comprehension and Vocabulary were the Germanic and Spanish groups, whereas the highest ranking groups for Structure and Written Expression were the Germanic and African groups.

The ESL specialists, when asked to identify reasons for certain items' sensitivity to language differences, found this task very difficult, as they could only offer comments involving languages with which they were familiar. Further, when asked to predict which items in the second test form would be most sensitive to language differences, the reviewers were generally unsuccessful. Prediction was only at a chance level for Listening Comprehension and Structure and Written Expression; for Reading Comprehension and Vocabulary the success rate was somewhat higher but was still considered not reliable enough for practical application. An a priori contrastive analysis of this type appears to be quite speculative.

The study demonstrates a statistical procedure that can help determine the sensitivity of TOEFL items to language differences. It is cautioned, however, that results that are significant by this method do not provide a sufficient basis for excluding an item from the test; even a relatively small difference can yield a significant chi-square, and some degree of variation is to be expected, based on known contrasts with the English language. However, the method is useful in identifying items that yield exaggerated or unexpected deviations from expected item performance across language groups.

4. American Association of Collegiate Registrars and Admissions Officers. (1971). AACRAO-AID Participant Selection and Placement Study. Report to the Office of International Training, Agency for International Development, U.S. Department of State. Washington, DC: Author.

Purpose

The U.S. Agency for International Development (AID) annually sponsors a program in which foreign nationals attend U.S. colleges and universities to prepare them to assist in the economic and social development of their home countries. Several aspects of these students' selection and placement were examined. This summary focuses primarily on data dealing with prediction of academic performance, in which TOEFL played a role.

Method

The subjects were 1,004 AID program participants, including the first regular participants arriving in 1967 and 1968 and 100 Vietnamese participants attending a six-month intensive English language program. Participants were selected by AID, with home-government approval, partly on the basis of maturity and experience, and they were placed in U.S. colleges and universities by AID or another U.S. federal agency.

Nearly three-fourths of the subjects were from the Far East or Africa (vs. one-third of the total foreign student population in the United States). Sixty percent of the subjects specialized in education, social science, or agriculture (vs. 21 percent of all foreign students). The subjects' median age was 28, 58 percent had been out of school at least three years, and the vast majority held professional positions in their home countries. Thus, these subjects were different from the general population of foreign students in the United States. Nevertheless, the mean TOEFL score of the subjects (483) was nearly identical to the mean score of all foreign applicants to U.S. institutions between February 1964 and April 1967 (484). The sample was 81 percent male (vs. 75 percent for all foreign students).

Each subject completed a questionnaire indicating (a) year of birth, (b) number of years since last school attended, and (c) rank in class (top 10 percent, top 25 percent, top 50 percent, bottom 50 percent). Each subject was also administered at least one of the following tests: TOEFL, the English proficiency test of the American Language Institute at Georgetown University (ALI/GU), and the College Board Scholastic Aptitude Test (SAT) for undergraduates, or the Graduate Record Examinations (GRE) Aptitude Test for graduate students.

The ALI/GU is a battery consisting of four tests: English Usage, Vocabulary and Reading, Listening (all multiple-choice), and Oral Rating (interview). In the English Usage test, each item is a sentence with a word or phrase deleted, and the examinee must choose, from three alternatives, the word or phrase that best completes the sentence. In the Vocabulary and Reading test, each vocabulary item is either a sentence with a deleted word or a sentence with an underlined word, and the examinee must choose, from four alternatives, the correct deleted word or a synonym for the underlined word. In the reading part of this test, the examinee reads several short passages and, for each passage, answers several multiple-choice questions. For each item of the Listening test, the examinee hears a short question or a short statement and must choose, from four printed alternatives, the correct answer to the question or a correct paraphrase of the statement. [description paraphrased from a recent publication concerning the ALI/GU test] Only these three tests were administered to the subjects in the present study on their arrival in the United States, and the ALI/GU score reported here is a composite of scores on these three tests.

The SAT is a multiple-choice test of verbal and mathematical aptitude for applicants to U.S. colleges and universities [see Summary No. 2, Alderman, 1982]. The GRE Aptitude Test [recently renamed the GRE General Test] is a multiple-choice test designed for applicants to U.S. graduate schools and measures verbal and quantitative aptitude. The verbal ability section tests the abilities to discern, comprehend, and analyze relationships among words or groups of words within sentences and written passages. The quantitative section measures basic mathematical skills, understanding of elementary mathematical concepts, and ability to reason quantitatively and solve quantitative problems. [description paraphrased from a recent GRE publication]

Three ratings of each subject's quality of academic performance in his or her home country were made, based on the subject's transcript: (a) quality in relation to home-country standards, as judged on a five-point scale by credentials analysts from the American Association of Collegiate Registrars and Admissions Officers; (b) competitiveness of institution for which the subject was suited, as judged on a four-point scale by the credentials analysts; and (c) quality in relation to standards at the subject's assigned institution, as judged on a five-point scale by receiving admissions officers. The above-mentioned factors all served as predictor variables in the analyses to be presented.

The following indices, computed during the subjects' first year at a U.S. college or university, served as criterion variables in the analyses: (a) grade-point average (GPA), on a four-point scale, for first semester, second semester, and total first year; (b) credits earned during the first year; and (c) first-semester and first-year "achievement index," defined as GPA squared times number of credits earned. Graduate students were also rated by their advisers on a five-point scale (a) relative to other foreign students in the discipline and (b) relative to all other students in the discipline.

Results and Conclusions

Two initial results involving TOEFL are worth noting. First, the correlation between scores on TOEFL and the ALI/GU was .84, indicating a considerable amount of similarity in these two tests. Second, when the subjects were asked if their English proficiency was adequate for full-time study, 74 percent of those who said "yes" had TOEFL scores of 450 and above; 68 percent of those who said "no" had TOEFL scores below 450. Thus, the subjects' TOEFL scores tended to correspond with their perceptions of their English proficiency.

Prediction of Academic Performance—Undergraduates

Correlations of predictor and criterion variables were significant but generally low. (Ns ranged from 260 to 413, as different data were available for different subjects.) Of the correlations between the predictors and the three GPA scores--first-semester, second-semester, and full-year GPA--those involving the full-year GPA were the highest in almost every case. In the results presented below, the term "GPA" refers to first-year GPA. The best predictors of GPA were the mathematics section of the SAT (r = .55), admissions officers' ratings of past academic record (.37), and birth year (.36), the last result reflecting better performance for younger subjects.

Grade-point average was not predicted very well by either TOEFL (.25) or the ALI/GU (.23). The first-year achievement index, which combines GPA and credits received, correlated somewhat more highly with these tests (TOEFL: .36; ALI/GU: .32), perhaps because those subjects with low English test scores take more remedial courses and thus receive fewer regular credits.

It might be assumed that the low correlations were due to matching in quality of subjects and institutions. However, no clear relation was found between admissions officers' ratings of subjects' prior academic performance and the selectivity of the subjects' assigned institutions.

The correlations could also have been reduced by the pooling of subjects from many countries. Correlations were computed separately for two major sending areas, Africa and Vietnam. For the Vietnamese subjects, correlations of GPA with TOEFL and with the ALI/GU were both .47 (Ns were between 127 and 227.); however, for the African subjects, the correlation of GPA with TOEFL was only .17 and with the ALI/GU was nonsignificant (and thus not reported). (Ns were between 116 and 121.) Although the basis for the difference between regions is not clear, apparently the value of these tests for predicting performance cannot be said to be the same for all geographic areas.

Prediction of Academic Performance for Graduate Students

For the graduate students, GPA showed a correlation of .19 with TOEFL and .14 with the ALI/GU; correlations with first-year achievement index were slightly higher (.33 and .30, respectively). Separate correlations were computed for four geographic subgroups, three curricular subgroups, two levels of English proficiency, and for subjects out of school for different lengths of time; none of these groupings resulted in improved prediction of GPA.

It is concluded that English proficiency scores did not have strong predictive value in this study. They appear to have been of greater value in indicating how heavy an academic workload a student should take.

5. Andalib, A. A. (1976). The academic success of undergraduate Iranian students in selected Texas universities (Doctoral dissertation, East Texas State University, 1975). Dissertation Abstracts International, 36, 4881A. (University Microfilms No. 76-4618)

Purpose

This study assessed the degree to which the academic success of Iranian students in selected Texas universities was predicted by TOEFL as well as by five other variables: (a) American College Test (ACT) scores, (b) College Board Scholastic Aptitude Test (SAT) scores, (c) high school scholastic average, (d) age, and (e) years out of school.

Background

Examination of previous studies suggests that students' academic performance in high school is related to their college performance. One study (American Association of Collegiate Registrars and Admissions Officers, 1971) suggests that TOEFL is of limited value as a predictor, as is the verbal SAT score, but that undergraduate grades are related to the mathematics score on the SAT and negatively related to age and years out of school.

Method

The subjects were Iranian undergraduates at several Texas universities. Of 336 students considered, 126 (117 males and 9 females) had data for three predictor variables: high school scholastic average, age, and years out of school; these students comprised the study sample. In addition to data for the above three variables, 42 of the subjects had ACT scores (these subjects are called Group 1), 26 had SAT scores (Group 2), and 16 subjects had TOEFL scores (Group 3) [all presumably obtained via preadmission testing; i.e., International administrations, in the case of the TOEFL]. The total sample of 126 students is called Group 4. [Names and number of universities participating are not specified, nor are the class standings of the subjects.] The criterion variable to be predicted by the above-mentioned factors was the subjects' undergraduate grade-point average (GPA), defined according to the standard five-point scale (i.e., A = 4, B = 3, C = 2, D = 1, F = 0).

High school average was computed on a 20-point scale, based on the subjects' performance in grades 10-12. For the approximately 5 percent of the subjects who had attended high school in the United States, grades were transformed to the 20-point scale according to common guidelines.

The ACT is a multiple-choice test in four parts. The English Usage subtest measures knowledge of punctuation, style, and other aspects of writing. Mathematics Usage assesses mathematical reasoning ability. Social Studies Reading and Natural Science Reading measure reading and reasoning skills in these two subject areas.

The SAT contains two parts, the verbal (SAT-V) and mathematics (SAT-M) sections. These two parts test understanding of verbal material and mathematics reasoning ability, respectively.

TOEFL data were available from the five-part test [presumably obtained via International administrations].

Results

For Group 1, correlations between ACT subtest scores and GPA ranged from -.11 to .05 ($N = 42$). For Group 2, correlations between SAT and GPA were SAT-V: -.25, SAT-M: .32 ($N = 26$). For Group 3, the correlation between TOEFL and GPA was .05 ($N = 16$).

For the other variables, the most reliable correlations with GPA are based on the full sample of 126 students (Group 4). These correlations were high school average: .15; age -.17; and years out of school: -.01. Only the correlation involving age was significant at the .05 level.

Multiple regression analyses produced many results, the most salient of which are summarized here. For Group 1, the multiple correlation involving all predictors with GPA was .47 (ns), and the multiple correlation with the best set of predictors (ACT English, ACT Natural Science, high school average, and age) was .46 (ns). The best predictor, high school average, correlated significantly with GPA ($r = .33$), but the addition of other predictors via stepwise multiple regression resulted in nonsignificant multiple correlations.

For Group 2, the multiple correlation involving all variables was a nonsignificant .59, and the multiple correlation with the best set of predictors (SAT-V, SAT-M, age, and years out of school) was a nonsignificant .58. The multiple correlation for the best two predictors (SAT-V and SAT-M) was a significant .49; addition of other predictors via stepwise multiple regression yielded nonsignificant correlations.

For Group 3, the multiple correlation involving all variables was a nonsignificant .64. The most effective prediction equation was that involving age only ($r = -.60$). Stepwise regression showed that the multiple R for the two best predictors (age and years out of school) was a significant .63; correlations involving additional variables were not significant.

For Group 4, the full sample, the multiple correlation involving all three variables--high school average, age, and years out of school--was a significant .28. The best prediction equation was that involving all of these variables.

Conclusions

This study provides data that may be useful to admissions officers. For the full sample of 126 subjects, undergraduate GPA was predicted by the combination of high school average, age, and years out of school. However, the relationship was low enough to suggest that use of equations involving these scores may have only minimal value for making admissions decisions. The TOEFL, SAT, and ACT were not good predictors of undergraduate GPA for these Iranian students, and it is recommended that these tests not be used in making admissions decisions for such students.

Suggestions for further research include use of a larger sample and inclusion of students from a wider geographic area and a wider variety of colleges. A departmental test in Farsi, the Iranian students' native language, as well as tests in English, could be of value in assessing Iranian students' knowledge as part of the admissions process.

6. Angelis, P. J. (1977). Language testing and intelligence testing: Friends or foes? In J. E. Reddon (Ed.), Proceedings of the First International Conference on Frontiers in Language Proficiency and Dominance Testing. Occasional Papers on Linguistics, No. 1. Carbondale, IL: Southern Illinois University. (ERIC Document Reproduction Service No. ED 145 677)

Purpose

This paper reviews data and issues pertaining to relationships between language proficiency and intelligence. Attention is given to the requirements of verbal proficiency test items and the degree to which such items tap intelligence rather than language skills alone for nonnative English speakers. Special attention is given to TOEFL section scores and patterns of performance on these sections.

Discussion

The work of Angoff and Sharon (1971) suggests that native English speakers have little difficulty with TOEFL. However, an unpublished study with 88 native English-speaking high school students shows that, while the subjects had little difficulty with TOEFL overall, the Structure and Written Expression and the Reading Comprehension and Vocabulary sections were found to contain items that were more difficult than would be expected for native speakers. In the case of each of these subtests, one-fourth to one-fifth of the items were answered incorrectly by at least 80 percent of the subjects. Lack of grammatical skills influenced the difficulty of the Structure and Written Expression section. The difficulty of the vocabulary items was affected by abstractness and frequency of vocabulary. The difficulty of the reading comprehension items was influenced by the need to make complicated judgments and inferences. The occurrence of unexpectedly difficult items for native English speakers complicates the interpretation of performance on such items.

Another unpublished study involved analysis of data from TOEFL [presumably the five-part version] and the Graduate Record Examinations (GRE) Aptitude Test given to 91 foreign students applying for admission to Texas A & M University. [See Summary No. 4, American Association..., 1971, for a brief description of the GRE Aptitude Test.] The correlation between TOEFL score and GRE total score was found to be .53 ($p < .0001$), which was slightly lower than the correlation of .55 ($p < .001$) between the TOEFL score and the GRE verbal subscore. A lower correlation of .31 ($p < .01$) was observed between the TOEFL score and the GRE quantitative score. The correlation between the GRE verbal score and the GRE quantitative score was only .13 (ns).

When the subjects were divided into those who scored high and those who scored low on the GRE verbal section and on TOEFL, 87 of the 91 subjects scored low on the GRE verbal section, and these subjects were about equally divided between those with low and high TOEFL scores. However, when a similar subdivision of subjects was made using GRE total score in place of GRE verbal score, the high GRE category was found to contain 36 subjects and the low GRE category, 55 subjects; within both the low GRE and high GRE groups, there were about equal numbers of low and high TOEFL scorers. Thus, addition of the GRE quantitative score apparently produced a more balanced array of scores.

Comparison of the content of TOEFL and GRE items shows that GRE verbal items stress more difficult vocabulary, longer passages of text, and more complicated and abstract inference requirements. The GRE verbal test makes great demands on nonnative English speakers because of the combined intellectual and language skills needed to comprehend and work items. It is concluded that the GRE verbal test should not be interpreted as testing language proficiency, a purpose that is better fulfilled by TOEFL.

Research done in Sweden found that scores on measures of inductive and logical reasoning in Swedish appeared to be associated with English reading rest scores. Also, the score on a measure of intellectual deliberateness showed a negative correlation with the score on an English language test. These various results suggest the need for more research on the relation between language and intelligence.

7. Angelis, P. J. (1979). TOEFL in recent years. In B. Spolsky (Ed.), Some major tests. Advances in language testing series: 1. Papers in applied linguistics. Arlington, VA: Center for Applied Linguistics. (Edited volume available as ERIC Document Reproduction Service No. ED 183 004)

Purpose

This is a descriptive paper dealing with developments in TOEFL since 1973. [It complements the papers by Jameson & Malcolm (1973), Oller & Spolsky (1979), and Palmer (1965), summarized in this collection, which describe the history of TOEFL prior to that time.]

Discussion

Before 1973, the College Entrance Examination Board (CEEB) and Educational Testing Service (ETS) held joint responsibility for the TOEFL program. In July 1973, a new arrangement was formed, whereby responsibility for the direction of the program was assumed by both CEEB and the Graduate Record Examinations Board (GREB), with ETS continuing to manage the program's operation. This change reflected the increase in the number of graduate applicants taking TOEFL.

One outcome of this change was the replacement of the National Advisory Council on TOEFL with the TOEFL Policy Council as the policy-making body for the test. Whereas the earlier council was a general group representing several different constituencies, the new Policy Council had a more strictly defined structure. It consisted of three members appointed by CEEB and three members appointed by GREB--who formed the six-member Executive Committee--along with nine other members representing foreign student advisers, admissions officers, government agencies, and teachers of English as a second language.

The Committee of Examiners, which had existed since 1966, was now made a standing committee of the Policy Council. Its role was enlarged to include regular review of test items and contribution of general advice on test content. A second standing committee, established in 1976, was the TOEFL Research Committee, a five-member panel formed to review research proposals and monitor research projects.

The TOEFL program has continued to grow. As of 1977, there were five annual administrations of TOEFL, and the number of special centers offering the test monthly had grown to about 15. The number of TOEFL examinees had risen to nearly 150,000 in the year 1976-77.

The test was revised as a result of data obtained in a study by Pike (1979). The English Structure and Writing Ability subtests were combined,

partly because of the high correlation found between them; the Reading Comprehension and Vocabulary subtests were combined for similar reasons. The new test thus consists of three sections rather than five, and the change in format resulted in a reduction in number of items and testing time as well as in changes in item types. [See Introduction for descriptions of the three-section and five-section tests.] Since the equating system and score scale remain the same, total scores on the three-part test can be interpreted in the same way as total scores on the old five-part test (although section scores cannot be compared). Since Listening Comprehension now contributes one-third of the score, rather than one-fifth as before, some shift in the role of listening may occur, and further data are needed to determine the nature and extent of such a shift.

Certain assumptions remain the same as they were in 1963, when the test was first developed. Notably, a normative scale is still used, whereby an examinee's proficiency is expressed in relation to that of all others who have taken the test.

Regarding the use and interpretation of TOEFL scores, surveys have indicated that most institutions use section scores, particularly the Listening Comprehension score, in making admissions decisions. Also regarding score interpretation, it has repeatedly been stressed that TOEFL scores are not appropriate predictors of future grades. Admissions decisions presumably should be made by first examining a student's past academic record and then using TOEFL scores to help determine whether the student has the necessary English proficiency to do the required academic work. Yet TOEFL does provide predictive information of a sort. If the role of English proficiency in different programs of study were to be determined, guidelines could be established concerning the meaning of TOEFL scores for students at different levels and programs of study.

Since the formal program of TOEFL research began in 1976 under the governance of the TOEFL Research Committee, several projects have been initiated. [The studies mentioned are now completed and are among the first reports published in the TOEFL Research Report series, which are summarized in this collection.]

A new version of the TOEFL manual, due to appear shortly as of the time of this writing, provides data on the three-part test. [The 1981 manual, which postdates the 1976 version to which Angelis refers, is summarized in the present collection, with data presented for the revised test.]

An invitational conference in October 1977 was attended by 10 specialists in English as a second language. Discussions among these specialists, the TOEFL Committee of Examiners, and ETS staff led to suggestions for further shifts in emphasis in the TOEFL--principally, to use more extended contexts and more realistic situations, and to place more stress on academic contexts, since the test is used primarily for college and university admissions decisions.

As continued input is provided by the various TOEFL committees and other specialists in the field, and as research indicates new areas for investigation, it is appropriate that the TOEFL program be responsive to suggestions for further change.

8. Angelis, P. J., Swinton, S. S., & Cowell, W. R. (1979). The performance of non-native speakers of English on TOEFL and verbal aptitude tests (TOEFL Research Rep. No. 3; ETS Research Rep. No. 79-7). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 205 607)

Purpose

This study sought to determine the relationship between performance on TOEFL and performance on two commonly used measures of verbal aptitude: the verbal section of the Graduate Record Examinations Aptitude Test (GRE-V), taken by prospective graduate students, and the verbal section of the College Board Scholastic Aptitude Test (SAT-V), taken by prospective undergraduates. Because SAT examinees also take the Test of Standard Written English (TSWE), which is often used to place native English speaking students in freshman English courses, scores on the TSWE were compared with scores on the TOEFL also.

Method

A telephone survey of 50 large universities was first conducted, which showed that the TOEFL, the SAT, and the GRE are the most commonly required tests of foreign applicants to undergraduate and graduate programs. Subsequently, the experimental sample for the present study was selected, which consisted of 396 volunteers. The subjects, who included 210 undergraduate applicants and 186 graduate applicants, took either the GRE-V or the SAT-V and the TSWE after a regularly scheduled norming administration of the three-section TOEFL. [The SAT and TSWE are briefly described in Summary No. 2, Alderman 1982; the GRE Aptitude Test is briefly described in Summary No. 4, American Association..., 1971]. All testing was carried out at 13 domestic test centers. Background data indicated that the group was typical of the TOEFL population. Thirty-five different native languages were listed by the graduate students and 30 by the undergraduates.

Mean scores produced by the sample were compared with mean scores for representative comparison groups of about 1,500 examinees each: (a) examinees randomly selected from the total population of examinees who were administered the same form of TOEFL, (b) native speakers who took the same form of the GRE-V, and (c) native speakers administered the same forms of the SAT-V and TSWE. Performance on TOEFL was then correlated with, and compared to, performance on one of the other tests.

Results and Conclusions

Table 1 depicts basic descriptive statistics on the four measures included in this study for the experimental and comparison groups. The

mean score of 269 on the SAT-V achieved by the nonnative undergraduates shows that this group found the test very difficult. The mean score of 274 achieved by graduate nonnatives on the GRE-V was also well below the mean score for native speakers, even though the mean TOEFL score of graduates included in this sample (523) was above the mean for all graduate examinees on TOEFL (506). Although scores on the SAT-V and GRE-V for both nonnative groups were attenuated, the undergraduates were not as far (1.5 SD) below their native speaking counterparts as were the graduates (2 SD). It should also be noted that the reliability of both verbal aptitude measures was considerably lower for nonnatives than for natives.

Table 1

Descriptive Statistics on Four Verbal Measures
for Experimental and Comparison Groups

Test and subgroup	N	Mean	SD	Reliability
TOEFL (undergraduates)	210	502	63	.94
(graduates)	186	523	69	.95
(comparison group)	1,540	493	75	.95
SAT-V (nonnatives)	210	269	67	.77
(natives)	1,765	425	106	.91
TSWE (nonnatives)	210	28	8.8	.84
(natives)	1,765	42	11.1	.89
GRE-V (nonnatives)	186	274	67	.78
(natives)	1,495	514	128	.94

The native-nonnative performance differential on the TSWE was slightly less (1.4 SD) than was observed for the SAT-V, and the reliability of the TSWE was similar for both groups.

It is concluded that the SAT-V, TSWE, and GRE-V are all difficult for nonnatives. Because their scores cluster in the lower extreme of each test scale, interpretation of scores of nonnatives on these tests can be complicated.

The correlations among these measures are depicted in Table 2. The correlation of .65 between TOEFL total and GRE-V indicates that these two scores are related, although the skills being measured are not identical. The Listening Comprehension section of TOEFL showed the lowest correlation with GRE-V, which is to be expected, since listening skill is not measured

with the GRE-V. The other two TOEFL sections exhibited stronger and nearly equal correlations with the GRE-V. The same pattern occurred with the SAT-V. The TSWE correlated more strongly with the TOEFL than did either of the other two tests, with the weakest relationship between the TSWE and any specific TOEFL section involving Listening Comprehension (.51) and the strongest relationship involving Structure and Written Expression (.71). The latter finding offers support for the construct validity of the Structure and Written Expression section of TOEFL, since it is similar in format to the TSWE.

Table 2

Correlations between Scores on TOEFL and Scores on Three Common Admissions Tests

	TOEFL Section			
	Listening Comprehension	Structure and Written Expression	Reading Comp. and Vocabulary	Total TOEFL
GRE-V ($\underline{N}$ = 186)	.52	.61	.62	.65
SAT-V ($\underline{N}$ = 210)	.45	.64	.68	.68
TSWE ($\underline{N}$ = 210)	.51	.71	.66	.72

9. Angoff, W. H., & Sharon, A. T. (1971). A comparison of scores earned on the Test of English as a Foreign Language by native American college students and foreign applicants to U.S. colleges. TESOL Quarterly, 5, 129-136.

Purpose

This study compared performance of native American students and foreign students in performance on TOEFL.

Method

The native American subjects consisted of 71 entering freshmen at a western state university who averaged at the 29th percentile on the English subscore of the American College Test (ACT). The ACT English subtest is part of a battery of tests for American students applying to U.S. colleges and universities and measures knowledge of English usage. The subjects were administered the five-part TOEFL in February 1969. The sample of foreign students consisted of all candidates given an operational [presumably International] TOEFL over a three-year period from 1964 to 1967 (N = 34,774).

Results and Conclusions

The average score of the native Americans was about two standard deviations higher than that of the foreign students on Listening Comprehension, English Structure, and Vocabulary and about one standard deviation higher on Reading Comprehension and Writing Ability. Furthermore, the American students' score distribution was narrower than that of the foreign students and was highly skewed in the negative direction, with a higher proportion of students earning maximum or near-maximum scores. These results show that the test was extremely easy for the native American students.

The correlation between ACT English and TOEFL score for the native American subjects was a relatively low .64, which cannot be attributed to unreliability of the tests (reliabilities of ACT English and TOEFL are reported by the tests' publishers to be .88 and .97, respectively). Thus, TOEFL appears to measure somewhat different language skills from those measured by the ACT English subtest.

Analysis of item difficulties showed that only 17 of 130 items were more difficult for the native American than for the foreign students. (This analysis excluded those items for which p values, or proportions of the groups answering the items correctly, exceeded .95, since statistics

on such items tend to be unreliable). This result further attests to the ease of TOEFL for native American students. Of these 17 items, 13 were from the Writing Ability section, which taps examinees' knowledge of grammatical forms. The relatively large number of such items may reflect the fact that Americans are frequently exposed to incorrect grammatical forms in colloquial English.

Listening Comprehension items were uniformly easier for the American than for the foreign students; this finding may result from the fact that English is transmitted in spoken form more often for the former students than for the latter. English Structure items were also uniformly easier for the American students, which could be due to the fact that this section is intended to identify the types of language errors characteristic of foreign speakers of English.

In general, the relative ease of TOEFL for the American students and the narrowness and skewedness of the score distribution for these students indicate that TOEFL is not an appropriate test of English for native American students.

10. Angoff, W. H., & Sharon, A. T. (1974). The evaluation of differences in test performance of two or more groups. Educational and Psychological Measurement, 34, 807-816.

Purpose

This study sought to determine whether there are differences among language groups in the relative difficulties of various vocabulary items on TOEFL. It also served to demonstrate statistical procedures by which to address this question and identify items that are particularly easy or particularly difficult for a given language group.

Method

The subjects were examinees taking the five-part TOEFL at a regular [presumably International] test administration in October 1969. All test candidates (a total of 6,120) in six native language groups were included: German, Spanish, Arabic, Chinese, Japanese, and Gujarati. The study also included a sample of 1,000 cases drawn at random from the general population of examinees at the same test administration. Performance on the 40 items in the Vocabulary section was examined.

Results and Conclusions

An analysis of variance was conducted with two factors: language group and specific vocabulary item. A significant interaction between items and groups showed that the patterns of performance on the 40 vocabulary items were different for the six language groups. Thus, the rank order of item difficulties tended to vary with the native language of the examinee.

In additional analyses, the difficulty level of each of the 40 items for a given language group was plotted against the difficulty level for the general sample of 1,000 examinees. This was done for each of the six language groups, thus defining six elliptical scatterplots. For each language group, items falling outside this ellipse were identified as items that were particularly easy or particularly difficult for that group. Although the specific items so identified are not indicated in the report, distributions of deviation are presented as a means of demonstrating the value of the statistical procedure.

The study makes no attempt to assess item differences in terms of linguistic considerations. It does suggest, however, that the items measure sufficiently different aspects of English vocabulary that they are not consistently more difficult for one group than another. The study

also demonstrates a statistical procedure that can be used to identify those items that are unusually easy or unusually difficult for a given language group.

11. Ayers, J. B., & Peters, R. M. (1977). Predictive validity of the Test of English as a Foreign Language for Asian graduate students in engineering, chemistry, or mathematics. Educational and Psychological Measurement, 37, 461-463.

Purpose

The relationships among college grades, Graduate Record Examinations (GRE) Aptitude Test scores, and TOEFL scores were examined for 50 Asian students who had completed master's level programs in engineering, chemistry, or mathematics.

Method

The subjects were 50 male foreign students enrolled at Tennessee Technological University. The subjects' countries of origin were Asian [identified simply as "Republic of China, India, Thailand, etc."]. All subjects had taken TOEFL prior to admission to the university. Fifteen of the 50 students had completed the GRE Aptitude Test, which yielded a verbal score (GRE-V) and a quantitative score (GRE-Q). [The GRE is briefly described in Summary No. 4, American Association..., 1971.] Overall grade-point average (GPA) for each subject was obtained from university records.

Results

Table 1 presents the principal data of the study. A stepwise regression analysis was used to predict GPA from TOEFL and GRE-V scores. The resulting equation was GPA = 0.004 TOEFL - 0.002 GRE-V + 2.38. The multiple R for the equation was .71 ($p < .05$, $df = 12$). Addition of GRE-Q to the equation failed to increase the multiple R.

Table 1

Descriptive Statistics and Intercorrelations among Variables

	N	Mean	SD	Correlations		
				GPA	TOEFL	GRE-V
GPA	50	3.61	0.31			
TOEFL	50	491	51.30	.40**		
GRE-V	15	286	73.50	.22	.76**	
GRE-Q	15	645	63.70	.55*	.64**	.47

*Significant at the .05 level.
**Significant at the .01 level.

Conclusions

The results suggest that TOEFL may be a useful predictor of Asian students' performance in master's level programs in engineering, chemistry, or mathematics. A combination of TOEFL and GRE-V scores appeared to be a reasonable predictor of success. While it may not be possible to generalize to other academic areas or to other samples of graduate students, the results suggest the predictive value of TOEFL in selected areas.

12. Blanchard, J. D., & Reedy, R. (1970, September). The relationship of a test of English as a second language to measures of achievement and self-concept in a sample of American Indian students. Research and Evaluation Report Series No. 58. Bureau of Indian Affairs, U.S. Department of Interior. (Reprinted 1977). Paper presented at the meeting of the American Psychological Association, Miami Beach, FL. (ERIC Document Reproduction Service No. ED 147 090)

Purpose

The objective of this study was to understand factors contributing to the poor achievement levels of American Indian students. The study examined interrelationships among scores on tests of English language proficiency (including TOEFL), educational achievement, and self-concept. One hypothesis was that primary language and self-identity may be closely connected for American Indian students.

Method

The 99 subjects consisted of 49 males and 50 females in the eleventh and twelfth grades at the Albuquerque Indian School, an off-reservation boarding school managed by the Bureau of Indian Affairs. Six Indian language families, or tribal groups, were represented. Navajos comprised the largest group of students at the school (80 percent) and in the sample (N = 69 of 99).

The tests administered included the five-part TOEFL, the Iowa Test of Educational Development (ITED), the Tennessee Self-Concept Scale (TSC), and the Southwestern Indian Adolescent Self-Concept Scale (Q-sort). The ITED is an achievement test consisting of eight subtests: (a) understanding basic social concepts, (b) general background in the natural sciences, (c) correctness and appropriateness of expression, (d) ability to do quantitative thinking, (e) ability to interpret reading materials in the social studies, (f) ability to interpret reading materials in the natural sciences, (g) ability to interpret literary materials, and (h) general vocabulary. The TSC consists of self-descriptive statements the subject uses to portray himself or herself. Scores are derived on eight scales: (a) personal self, (b) family self, (c) social self, (d) total P score (i.e., sense of self-worth), (e) defensiveness, (f) general maladjustment, (g) personality disorder, and (h) personality integration. The Q-sort test measures how adolescents feel toward themselves. All tests except one were administered under classroom-like conditions by teachers, with some aid from a school psychologist.

Results and Conclusions

One-way analysis of variance was used to determine whether tribe, sex, and grade were associated with differences in individual test scores. Four of the five TOEFL subscores and the total score were found to be significantly higher for Apaches than for other tribes. Scores on two subtests of the ITED (understanding of basic social concepts and general background in the natural sciences) were significantly higher for twelfth graders than for eleventh graders. TOEFL subscores did not differ significantly across grades, except that scores on the Writing Ability subtest were higher for twelfth graders. Only one significant difference between grades was found for scales on the TSC and Q-sort test. Sex and tribe did not have significant effects on scores on the ITED test, Q-sort test, or the TSC test.

Multiple correlations were computed to investigate the association of all scores on the four instruments to grade, sex, age, and tribe separately. The results showed significant multiple Rs in every case. When the original zero-order correlations were examined, the following were significant. Grade correlated positively with ITED subtests in basic social concepts, background in the natural sciences, and interpreting materials in the natural sciences. Sex correlated positively with ITED correctness and appropriateness of expression and TOEFL English Structure, and negatively with Q-sort. Age correlated positively with ITED understanding of basic social concepts and with TSC family self and general maladjustment. Tribe correlated negatively with TSE family self score.

Inspection of TOEFL subtest and total scores revealed that the subjects had average scores falling in the range 300-449 on the Vocabulary, Reading Comprehension, and Writing Ability subtests. Listening Comprehension and English Structure scores were higher, more closely approximating the mean for foreign students as a whole, but the mean total TOEFL score of these Indian students was far below that of foreign students as a whole.

The average ITED scores of subjects in this sample as well as students in the tenth grade at the Albuquerque Indian School were all below the 10th percentile nationally. The results for TOEFL and the ITED indicate that the subjects were not prepared for an English-speaking academic environment. Scores on a scale of the TSC that reflected subjects' self-image indicated that the subjects manifested low overall self-esteem in relation to the published norms for this scale. These Indian students also scored low relative to published norms on two other scales of the TSC test--the general maladjustment scale and the personality disorder scale. Scores on the Q-sort test, however, did not suggest pathological adjustment of Indians. The fact that the constructs under measurement by the TSC test were not normed or developed for American Indians must be considered in interpreting these findings.

The results of the study demonstrated that the American Indians under investigation showed low skills in English as a second language. These

individuals scored lower than national norms on all of the tests used in this study. Perhaps American Indian students' cultural and linguistic backgrounds are at odds with the type of education provided in mainstream U.S. classrooms.

13. Bostic, M. L. (1981). A correlational study of academic achievement and the Test of English as a Second [sic] Language (TOEFL) (Doctoral dissertation, East Texas State University, 198[illegible]. Dissertation Abstracts International, 43, 468A (University Microfilms No. 8116851)

Purpose

This research investigated the predictive validity of TOEFL for freshman foreign students enrolled at Southeastern Oklahoma State University.

Background

Among the goals of the study was to determine the roles played by each of two admissions policies for foreign students. Under one policy, foreign students were admitted upon completion of a series of ESL classes. Under a second admissions policy, foreign students were admitted if they scored at or above 460 on TOEFL. The study had four hypotheses. Hypothesis 1 was that there would be no difference in grade-point average (GPA) as a function of admissions policy. Hypothesis 2 was that there would not be a significant positive correlation between TOEFL score and GPA. Hypotheses 3 and 4 were the same as Hypothesis 2 except that GPA in nonverbal courses and GPA in verbal courses, respectively, were used as the criterion variables. Nonverbal courses were defined as those courses in which much of the subject matter could be understood without English language skills. Courses meeting this criterion included all courses in mathematics, physical sciences, computer science, drafting, engineering, electronics, chemistry, art, music, and physical education. Verbal courses were defined as courses that placed an emphasis on communication of material through language. Such courses included offerings in the fields of languages, humanities, social sciences, business, biology, and conservation.

Method

The 154 students studied represented 19 countries of origin. All subjects were enrolled as freshmen during the periods 1978-79 or 1979-80. One hundred fifteen of the students for whom TOEFL scores were not available were admitted to academic study through completion of prescribed courses in English as a second language (ESL); 30 students were admitted by achieving scores of 460 or better on the three-part TOEFL [presumably obtained via International or Special Center administrations]; and nine students who scored below 460 on the TOEFL were admitted after completing

required ESL courses. Students admitted in fall 1978 and spring 1979 were not required to present TOEFL scores. These students were required to have earned passing grades in 12 hours of ESL courses before they could enroll freely in non-ESL courses. Students admitted in fall 1979 and spring 1980 had to present TOEFL scores of 500 or above to gain admission. In the 1979-80 school year, it was not possible to apply this TOEFL criterion uniformly; some students who had applied earlier fell under the 1978-79 admissions policy, while other students scored below 500 but were admitted nonetheless.

Results

In the case of Hypothesis 1, a t-test revealed no differences between the mean first-year college GPAs of subjects admitted under the two different admissions policies. The mean GPA for those admitted under the 1978-79 policy was 2.81 versus a mean GPA of 2.67 for those admitted under the 1979-80 admissions policy.

Relevant to Hypothesis 2, a correlation of .17 ($N = 39$) was found between TOEFL score and freshman GPA; this correlation was not statistically significant from zero. Hypothesis 3 was rejected, as a statistically significant correlation of .50 ($p < .05$, $N = 39$) was found between TOEFL score and GPA in nonverbal courses. Hypothesis 4 was not rejected, as a nonsignificant correlation of -.08 ($N = 39$) was found between TOEFL score and GPA in verbal courses. Hypotheses 2, 3, and 4 were re-examined using only those persons who scored at or above 460 on TOEFL. Re-examination of Hypothesis 2 led to its rejection; a correlation of .33 ($p < .05$, $N = 30$) was found between TOEFL score and freshman GPA. Consistent with the original findings, Hypothesis 3 was rejected and Hypothesis 4 was not rejected among subjects scoring at or above 460 on TOEFL (i.e., there was a significant correlation between TOEFL and GPA in nonverbal but not verbal courses).

Conclusions

The findings support the conclusion that the two admissions criteria--completion of ESL course work and demonstration of a certain TOEFL score--were associated with the same level of freshman GPA achievement of foreign students. The analyses relevant to Hypothesis 3 show that TOEFL scores might be helpful in predicting foreign students' academic achievement in areas of study that do not emphasize verbal skills. Failure to find a significant relationship between TOEFL score and GPA in verbal courses was inconsistent with findings of previous research. In general, it is concluded that TOEFL scores are a convenient and desirable method for screening foreign students for admission.

14. Campos-Arcia, M., & McVay, J. (1978, October). Graduate foreign student admissions decision-making: An application of the JAN Technique. Paper presented at the meeting of the Southern Association for Institutional Research, Nashville, TN. (ERIC Document Reproduction Service No. ED 163 883)

Purpose

In determining whether to admit a foreign student to graduate school, several factors may be considered, such as undergraduate grades, standardized test scores, and so forth. The present study sought to determine the degree of commonality among faculty members with regard to factors used in admissions decisions for foreign graduate applicants.

Method

First, interviews were conducted with graduate administrators or department heads in academic departments at North Carolina State University (NCSU) that had enrollments of 10 or more foreign graduate students. Based on these interviews, four variables were selected as most important in admission of foreign graduate students: undergraduate academic record, TOEFL score [presumably obtained via International or Special Center administrations], Graduate Record Examinations Aptitude Test quantitative score (GRE-Q), and letters of recommendation. [The GRE Aptitude Test is briefly described in Summary No. 4, American Association..., 1971.]

Profiles were then constructed that simulated 40 hypothetical foreign graduate applicants, using various values on each of the four variables. Sets of these 40 profiles were sent to each of 85 faculty members who were asked to rate each hypothetical applicant on a five-point scale from "poor" to "superior." The raters were persons who had responsibility for admissions decisions and represented 16 graduate departments at NCSU that had enrollments of 10 or more graduate foreign students. Usable data were obtained from 52 respondents.

The data were analyzed by means of the Judgment Analysis Technique (JAN), which uses a multiple linear regression approach to describe the rating policy used by each one of a group of judges. A judge's policy can be described by the following type of multiple regression equation

$$Y = B_o + B_1 X_1 + B_2 X_2 + \text{---} + B_m X_m + E$$

Where Y is the judge's rating, the Xs are the variables on which the rating is based and the Bs are the beta weights, which indicate the relative importance of each of the M variables in the judge's decision.

B_0 is a constant, and E is an error term. By analyzing a judge's ratings for the 40 hypothetical applicants, it is possible to determine the beta weights, or importance, ascribed to each of the four variables by each rater.

Results and Conclusions

The data show a considerable amount of difference among judges in rating policies. At one extreme, one judge assigned substantial weight to only one variable (GRE-Q), whereas at the other extreme, some judges assigned substantial weights to all four variables. The many different rating policies used seemed generally to comprise seven different models, representing different combinations of the four variables: (a) GRE-Q only, (b) GPA and GRE-Q, (c) GRE-Q and letter of recommendation, (d) GPA and letter, (e) GPA, GRE-Q, and letter, (f) GPA, GRE-Q, and TOEFL, and (g) all four variables. (Within these seven models, variation among judges in relative importance of variables was also apparent.)

Different rating policies among judges within departments were also apparent, as shown in analyses of data from the 13 departments that were represented by two or more judges. Similarly, when judges were grouped according to years of experience in making admissions decisions for foreign graduate applicants (0-3 years, 4 to 9 years, 10 or more years), differences in rating policies were found within these subgroups. In general, then, no single policy regarding admission of foreign graduate students was found, even within departments or within subgroups of judges with similar amounts of experience.

15. Chai, S. H., & Woehlke, P. L. (1979, September). The predictive ability of standardized tests of English as a foreign language. In R. Silverstein (Ed.), Proceedings of the Third International Conference on Frontiers in Language Proficiency and Dominance Testing. Occasional Papers on Linguistics, No. 6. Carbondale, IL: Southern Illinois University. (ERIC Document Reproduction Service No. ED 186 476)

Purpose

This review paper considers issues and evidence regarding the use of tests of English as a foreign language as predictors of foreign students' academic achievement.

Discussion

An important consideration in the use of a standardized test of language proficiency is its validity--content validity, construct validity, and predictive or criterion validity. Also important is the reliability of a test. While English language proficiency tests are not typically constructed to reflect an English language learning theory, they nonetheless are expected to inform college admissions decisions for foreign students.

The central issue in the admissions context is how useful proficiency test scores are in aiding admissions decisions. Relevant to this issue is the ability of proficiency test scores to predict certain academic criteria--principally grade-point average (GPA). A review of selected studies aids in evaluating the utility of various English proficiency tests as predictors of college grades.

Five studies evaluating TOEFL alone as a predictor of college grades and college final term rating are cited. Validity coefficients in these studies ranged from .17 to .43, indicating that, at most, 18.5 percent of the variation in academic performance measures was predictable from TOEFL scores. When several predictors were used, such as combinations of TOEFL total and subtest scores or TOEFL scores and oral interview ratings, multiple correlation coefficients ranging from .49 to .64 were observed. Three studies are cited that used TOEFL and the Graduate Record Examinations (GRE) Aptitude Test as predictors of GPA. [See Summary No. 4, American Association..., 1971, for a brief description of the GRE Aptitude Test]. These studies found a moderate level of predictability, as correlations ranged from .32 to .71.

Three studies are mentioned that examined the predictive validity of the Michigan Test of English Language Proficiency (MTELP). [See Summary No. 1, Abadzi, 1976, for a brief description of the MTELP.] The

criterion measures in these studies were GPA or grades in selected course areas. Sample sizes ranged from less than 10 to 213. Validity coefficients ranged from .28 to .52. The largest proportion of MTELP variance accounted for was 27 percent.

Four studies reviewed used a combination of TOEFL, the MTELP, and other tests of English proficiency to predict college grades. Validity coefficients ranged from -.05 to .70 in these studies, with sample sizes ranging from 17 to 402. The largest validity coefficients tended to occur for studies involving the fewest subjects.

Three other studies involved prediction of college grades, college transcript ratings, earned credits, or an unspecified criterion of academic success. These studies utilized locally developed proficiency tests or other measures of verbal skills or verbal proficiency as predictor variables. Validity coefficients in these studies ranged from .02 to .84.

It is concluded that scores of tests of English as a foreign language (EFL) do not show a consistent and substantial relationship to academic achievement. Various factors might have attenuated the relationships reported. Unreliability is probably not a significant factor for the most prominently used tests. Variation in grading standards is a factor that may limit prediction of academic achievement. Also, the fact that the samples in these studies consisted of students who were admitted, and thus had a restricted range of English proficiency scores, could be a factor. Finally, there is the possibility that EFL tests are not measuring language and communication skills that are important for academic functioning.

College entrance examination test scores have shown higher relationships to college grades for native speakers of English than have English proficiency test scores for foreign students. Academic achievement in the student's native language and mathematical aptitude may need further investigation as predictors of a foreign student's academic achievement.

16. Charrow, V. R., & Fletcher, J. D. (1974). English as the second language of deaf children. Developmental Psychology, 10, 463-470.

Purpose

It was theorized that deaf children of deaf parents learn English as if it were a second language, since such children usually learn sign language first whereas deaf children of hearing parents do not. Three derivative hypotheses were tested: (a) deaf children of deaf parents should perform better than deaf children of hearing parents on any test of language skills, (b) performance of foreign students on a test of English as a second language should resemble that of deaf children of deaf parents more than that of deaf children of hearing parents, and (c) the relation between a standard test of English skills and a test of English as a second language should be lower for deaf children of deaf parents than for deaf children of hearing parents.

Method

Twenty-six adolescents in a state school for the deaf served as subjects; these included 13 deaf children of deaf parents and 13 deaf children of hearing parents. All were cogenitally deaf except three children of hearing parents, who were deaf by 18 months of age. The mean age of the subjects with hearing parents (18.3 years) was significantly higher than that of the subjects with deaf parents (17.2 years). The groups were similar in socio-economic status. TOEFL scores of a sample of 495 hearing foreign students were also available [the source of these students is not specified].

The five-part TOEFL was administered, with the Listening Comprehension section omitted. All references to English as a foreign language were deleted. The test instructions were given in Signed English, and sample questions were written on a blackboard, signed, and fingerspelled.

Grade placement scores from the Paragraph Meaning and Language subtests of the Stanford Achievement Test were also available for the 26 deaf subjects. The Paragraph Meaning subtest measures the subject's ability to comprehend and draw inferences from written discourse, and the Language subtest taps the subject's proficiency in usage, punctuation, capitalization, dictionary skills, and sentence sense.

Results and Conclusions

The scores of deaf subjects with deaf parents were significantly higher than the scores of those with hearing parents for each of the four

TOEFL subtests (except Reading Comprehension), as well as for the total of the four subtests and for both of the Stanford subtests. Correlation and regression analyses also showed a relation between parentage (as a dichotomous variable) and test scores. These results support the first hypothesis, that deaf children of deaf parents outperform those with hearing parents.

To test the second hypothesis, the number of persons answering each item correctly was determined for each of three groups: foreign students, deaf subjects with hearing parents, and deaf subjects with deaf parents. (Data were also obtained for the combination of the two deaf groups.) Correlations were computed between pairs of groups, with individual items as the units of analysis; this was done separately for each of the four subtests of TOEFL. Correlations between the foreign-student group and each of the two deaf groups were of particular interest. These correlations were higher for subjects with deaf parents than for those with hearing parents, for each of the TOEFL subtests. This result tends to support the second hypothesis in showing that, of the two groups of deaf subjects, those with deaf parents performed more similarly to foreign students on a test of English as a second language. (Similar results were obtained in a second correlational analysis, in which the dependent variable was the number of responses to the most likely wrong answer, rather than number of correct answers.)

The second hypothesis, however, would also predict that correlations between the two deaf groups should be lower than the correlation between foreign students and subjects with deaf parents. Such a pattern was obtained for the English Structure and Writing Ability subtests but not for the Vocabulary and Reading Comprehension subtests. Thus, evidence for the second hypothesis was mixed.

The third hypothesis was that the correlations between TOEFL and the Stanford tests would be higher for deaf subjects with hearing parents than for those with deaf parents. Evidence for this hypothesis was equivocal, as correlations of the TOEFL subscores with the Stanford Language subtest were generally in the predicted direction, while correlations with the Stanford Paragraph Meaning subtest were not.

In light of the mixed results for the second and third hypotheses, it is possible that deaf children learn only some aspects of English as if it were a second language. In any case, however, the superior performance of the deaf children of deaf parents may result from having learned sign language at an early age.

17. Chase, C. I., & Stallings, W. M. (1966). Tests of English language as predictors of success for foreign students. Indiana Studies in Prediction No. 8. Monograph of the Bureau of Educational Studies and Testing. Bloomington, IN: Bureau of Educational Studies and Testing, Indiana University.

Purpose

This study assessed the relation of students' grade-point average (GPA) to TOEFL and other tests of English language proficiency for a sample of foreign students at Indiana University. The few studies done prior to this study suggest a low relation between English test scores and GPA, possibly because such tests measure differences in class culture rather than intellectual ability.

Method

The subjects were foreign graduate, undergraduate, and nondegree students attending Indiana University.

The five-part TOEFL was one of three English tests used. [Scores presumably were available from International administrations.] There were 37 students for whom both a TOEFL score and a GPA were available. Reliabilities (KR-20) of the TOEFL subtests are reported to range from .84 to .94. [These figures, presented in the Method section, appear to be reliabilities obtained from previous publications; reliabilities for the other tests used in this study are not reported.]

Also administered were two subtests of a test developed by Robert Lado at the University of Michigan. Lado Test B is a test of aural comprehension. Lado Test C consists of three parts: (a) Structure, a multiple-choice test requiring interpretation of English sentences; (b) Pronunciation, requiring distinction of letter sounds and knowledge of correct syllable stress patterns; and (c) Vocabulary, requiring selection of the words or phrases most like those underlined in a series of sentences. Lado test scores and GPA were available for 343 subjects; both Lado test scores and TOEFL scores were available for 50 subjects.

A third test, termed the Pennstate test, was developed at Pennsylvania State University and has six parts: (a) in Sound Discrimination, the subject sees a pair of words and circles the word that corresponds to the word being read; (b) in Incomplete Sentences, the subject completes a sentence; (c) in Word Fluency, the subject lists as many words as possible beginning with a certain letter; (d) in Reading Comprehension, the subject indicates the meaning of a paragraph via multiple-choice responses; (e) in the Scrambled Test, the subject constructs a sentence from words out of

order; and (f) in the Vocabulary Synonyms test, the subject selects the word most like a given stimulus word. This test was administered to 52 subjects.

Results and Conclusions

The two Lado tests correlated .67 with each other, suggesting a moderately high degree of overlap in skills measured by them. Correlations with first- and second-semester GPA, respectively, were: for Lado Test B, .28 and .22; for Lado Test C, .20 and .23. These correlations were all significant at the .01 level ($N = 343$).

When students were grouped according to various categories, such as sex, sponsored vs. nonsponsored, and GPA above vs. GPA below a certain level, the correlations between Lado tests and GPA generally did not differ between groups. Exceptions were significantly higher correlations between Lado Test B and second-semester GPA for undergraduates than for (a) graduates and (b) contract (nondegree) students, perhaps because of the homogeneity of ability of the latter two groups. Analyses by language/culture groups and by major-field groups showed only a few cases in which correlations between the Lado tests and either first- or second-semester GPA were significant at the .05 level. These involved the romance languages and Chinese of 12 language/culture groups, and education and the humanities of five major-field groups.

The five TOEFL subtests--Listening Comprehension, English Structure, Vocabulary, Reading Comprehension, and Writing Ability--correlated .22, .26, .23, -.07, and .14, respectively, with GPA [whether first-semester, second-semester, or combined GPA is not indicated]. The correlation of first-semester GPA and Lado Test B was compared statistically with the correlation of GPA and TOEFL Listening Comprehension, since these two tests were comparable in format; for similar reasons the correlation of first-semester GPA with Lado Test C was compared with the correlation of GPA with TOEFL English Structure. These differences were not significant.

The two Lado tests correlated significantly with each of the TOEFL subtests. Although correlations with the Lado tests were somewhat lower for TOEFL Listening Comprehension and Reading Comprehension (r's = .45 to .59) than for the other TOEFL subtests (.58 to .87), in general there appeared to be substantial commonality in skills measured by these tests.

The Pennstate tests failed to correlate significantly with GPA (r's = -.15 to +.13).

In general, while the Lado tests correlated significantly with GPA, based on an N of 343, these correlations were of approximately the same magnitude as the nonsignificant correlations between TOEFL and GPA, based on an N of 37. Given these results, and given the moderate to high correlations between the Lado tests and TOEFL, it appears that the Lado tests and TOEFL measure quite similar characteristics.

None of the tests used here appeared to be very successful in predicting students' academic performance. Interpretation of this result is rendered difficult by the fact that GPA may be less reliable for foreign students than for domestic students; also, subjects who took TOEFL and the Pennstate test may have been less representative of the total foreign student population at Indiana University than the larger sample who took the Lado tests. Nevertheless, the data suggest that better prediction of academic success for foreign students may be achieved by examining variables other than English language ability.

18. Clark, J. L. D. (1977). The performance of native speakers of English on the Test of English as a Foreign Language (TOEFL Research Rep. No. 1). Princeton, NJ: Educational Testing Service.

Purpose

This study examined the performance of native English speakers on TOEFL and sought to identify characteristics of items that are difficult for these examinees.

Method

The subjects were 88 college-bound seniors from two New Jersey high schools, who were paid for their voluntary participation. All participants were native speakers of English and had had little or no exposure to languages other than English except in school foreign language courses.

The three-part TOEFL was administered one week prior to graduation in each of the two schools. Two alternate forms of the test were administered, each randomly assigned to approximately half the students per school. The test was described only as an experimental English achievement test. The instructions were very similar to those used in the administration of an operational TOEFL. In addition, however, the instructions urged the subjects to "make special note of any individual questions which seem substantially more difficult than the others." For the Structure and Written Expression section and the Reading Comprehension and Vocabulary section, the test administrator sought to provide sufficient but not excessive time. The times actually allotted in these sections were about 80 percent of those allotted in operational test administrations with foreign students, and this amount of time proved to be adequate for these native English speakers.

After completion of the test, each subject completed a short questionnaire asking for judgments as to the relative difficulty of each section and subsection of the test.

Results and Conclusions

The subjects scored high on the test, with mean scores of 134.42 (SD = 10.19) and 134.91 (SD = 11.44) of a possible 150 on the two forms. The range of scores was very restricted and the distribution was highly skewed in the negative direction. These results contrast with considerably lower scores, and wider, nonskewed score distributions for the foreign-student group on which these forms were initially scaled. These results indicate that the test would not be appropriate as an instrument for differentiating among native English-speaking students.

To compare the different test sections, a "percent-fail" rate was computed for each test section; this was the percentage of subjects incorrectly answering or omitting an item, averaged across items in a section. These rates were 4.4, 14.6, and 12.1 for the three sections, respectively, showing that the Listening Comprehension section was easier than the other two sections. The subjects were also asked to rank order the sections in difficulty. The subjects gave lower average rankings to the Listening Comprehension section than to the other two, showing that they perceived this section as the least difficult.

Percent-fail rates and difficulty ratings were also obtained for each part of each section. Within Listening Comprehension, subjective difficulty ratings indicated that the subjects found the third part, listening to passages, more difficult than either of the other parts, listening to short statements or dialogues, perhaps because the passages require more concentrated attention. Nevertheless, performance on all three parts of Listening Comprehension was relatively high.

Within the Structure and Written Expression section, percent-fail rates showed that error recognition items were considerably more difficult than sentence completion items, although the subjects' difficulty ratings did not show a difference in perceived difficulty between these two item types.

Within the Reading Comprehension and Vocabulary section, percent-fail rates showed the vocabulary items to be considerably easier than the reading passages, a difference that was also reflected in the subjects' difficulty judgments.

In an analysis of individual items, those items with percent-fail rates above 20 percent were noted. Taking both test forms together, there were only three such items in the Listening Comprehension section, but 22 in Structure and Written Expression and 22 in Reading Comprehension and Vocabulary. Most of the difficult items for Structure and Written Expression involved structural aspects with which college-bound native English speakers should be familiar; thus, the data do not indicate the presence of an appreciable number of "faulty" grammar items. For the eight difficult vocabulary items, a clear relationship to lexical rarity or other obvious factors could not be discerned. The 14 difficult Reading Comprehension items were primarily ones requiring the subject to summarize or interpret the point of a passage; however, some factual questions were also answered incorrectly.

In general, the data suggest that TOEFL is not an appropriate instrument for differentiating among native English speakers with respect to English proficiency. Assessment of native English speakers' performance might be useful in development of future tests. However, elimination of all items found difficult for this population would not be appropriate, because such a procedure would exclude items that test important components of English proficiency.

19. Clark, J. L. D., & Swinton, S. S. (1979). An exploration of speaking proficiency measures in the TOEFL context (TOEFL Research Rep. No. 4; ETS Research Rep. No. 79-8). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 201 641)

Purpose

The purpose of this study was to develop and field test a semi-direct measure of oral English skills that could be administered within the context of the TOEFL program.

Method

The main sample contained a total of 155 foreign students enrolled in English as a second language classes at the University of Florida or at the University of Pennsylvania during the fall of 1978.

Eleven experimental item types were selected for inclusion in an experimental test of oral English skills that was administered on tape with the aid of a picture booklet. The item types included (a) autobiographical questions, (b) use of a pictured noun in a sentence, (c) use of a pictured verb in a sentence, (d) reading aloud, (e) sentence repetition, (f) dehydrated sentences, (g) fill-in-the-blank, (h) telling a story based on a sequence of pictures, (i) answering multiple questions based on a single picture, (j) a simulated telephone conversation with a voice on a tape, and (k) persuasive speech based on a sequence of pictures.

Parallel forms of the experimental test were given to 12 examinees, along with a long and short Foreign Service Institute (FSI) type oral proficiency interview and the three-part TOEFL. Based on the results, two item types, persuasive speech and use of a pictured verb in a sentence, were eliminated and a new item type, sentence completion, was added to a developmental edition of the test. Two forms of the test were constructed, each containing 97 items, and both forms were administered to the main sample of 155 students. The subjects also took an FSI-type interview and the three-part TOEFL. FSI raters indicated which of five ratings the examinees received on the five basic criteria: pronounciation, grammar, vocabulary, fluency, and comprehension. Items on the developmental edition of the speaking test were scored for pronounciation, fluency, and grammar.

A covariance matrix was developed relating all of the above variables. This matrix was examined to determine (a) the correlation between the total score on each form of the developmental edition of the speaking test and the total score on the FSI and TOEFL, (b) the correlation between each item type and the FSI and TOEFL part and total scores, and (c) the

correlation between each item and the FSI and TOEFL part and total scores. A special item analysis program, SCALAR, identified the 48 items from each form having the highest correlations with the total FSI score; also, a comparable analysis was performed using the total of TOEFL Section II (Structure and Written Expression) and Section III (Reading Comprehension and Vocabulary) in place of the total score, since TOEFL Section I (Listening Comprehension) was expected to correlate highly with speaking proficiency.

Results

Based on the correlational analyses, four item formats were selected to form a 20-item prototype Test of Spoken English (TSE), which showed an internal consistency reliability of .91. The item formats and scoring criteria selected were (a) reading aloud (pronunciation and fluency); (b) sentence completion; (c) telling a story based on a picture sequence (pronunciation, grammar, and fluency); and (d) multiple questions based on a single picture (grammar and fluency). The prototype TSE had equal correlations (.68) with FSI ratings and with TOEFL Structure and Written Expression and TOEFL Reading Comprehension and Vocabulary. While one might expect such a test to show higher correlations with the FSI interview than with TOEFL, the lower reliability (.74) of the FSI ratings may have helped reduce the correlation between the TSE and the FSI. The addition of the prototype TSE to the TOEFL scores caused the multiple correlation with FSI to increase to .73, thus increasing the predictable FSI variance by about 8 percent.

Conclusions

The final prototype TSE was presented to be considered for eventual operational use in the TOEFL program. Subsequently, a modified version of the TSE form developed in this study was pilot-tested under actual operational conditions at representative TOEFL test centers.

20. Clark, J. L. D., & Swinton, S. S. (1980). The Test of Spoken English as a measure of communicative ability in English-medium instructional settings. (TOEFL Research Rep. No. 7; ETS Research Rep. No. 80-33). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 218 960)

Purpose

The two principal objectives of this study were (a) to determine the concurrent validity of the Test of Spoken English (TSE) in relation to the Foreign Service Institute (FSI) oral proficiency interview, and (b) to obtain criterion-related validity data on the relationship between TSE scores and actual communicative effectiveness in classroom settings.

Method

For the concurrent validation analysis, the TSE and the FSI interview were administered to 134 foreign teaching assistants at nine state universities. Relevant background data, such as length of residence in English-speaking countries and years of English study prior to and subsequent to arrival in the U.S., were collected. Scores on the three-part TOEFL, obtained within the preceding 12 months [presumably via International or Special Center administrations], were available for 31 of these students. The TSE yielded scores in four areas: pronunciation, grammar, fluency, and overall comprehensibility. [The TSE is further defined in Summary No. 19, Clark & Swinton, 1979.] Correlations were computed among the TOEFL and TSE part and total scores and the FSI total score.

In the criterion-related validation phase, FSI and TSE scores of 60 foreign teaching assistants served as predictor variables in multiple regression analyses. Criterion variables were student ratings on a specially designed questionnaire of the instructor's use of language in the classroom and in other instructional contexts, and a standardized instructor/course evaluation instrument completed by the students.

Results

For the original group of 134 subjects the correlation between the TSE and FSI total scores was .79. For the subset of 31 cases for which TOEFL scores were available, the intercorrelations were as shown in Table 1.

Table 1

TOEFL, TSE, and FSI Intercorrelations
($\underline{N}$ = 31)

	TOEFL LC	TOEFL S&WE	TOEFL RC&V	TOEFL Total	TSE Pron.	TSE Gram.	TSE Flu.	TSE Comp.
TOEFL LC[a]								
TOEFL S&WE[a]	.77							
TOEFL RC&V[a]	.67	.64						
TOEFL Total	.92	.91	.85					
TSE Pron.	.68	.42	.38	.56				
TSE Gram.	.76	.54	.56	.70	.86			
TSE Flu.	.65	.52	.43	.60	.92	.89		
TSE Comp.	.69	.46	.36	.57	.95	.88	.93	
FSI Total	.71	.57	.62	.71	.77	.73	.76	.76

[a]TOEFL LC = Listening Comprehension; TOEFL S&WE = Structure and Written Expression; TOEFL RC&V = Reading Comprehension and Vocabulary.

The TSE scores correlated more highly with the FSI rating than with the TOEFL scores. The TSE grammar score correlated more strongly with the TOEFL total (.70) than did the other TSE scores. The highest correlations involving any individual TOEFL section were those among TOEFL Listening Comprehension, the four TSE scores, and the FSI total score. Thus, the TOEFL Listening Comprehension score showed a greater relationship to oral English skills than did the other two section scores. The TSE scores showed higher correlations with the FSI total than did any TOEFL score.

The multiple regression analysis showed that both the TSE and the FSI scores served as good predictors of communicative proficiency as determined by student ratings on the special questionnaire; these test scores also predicted more general aspects of teaching performance. The TSE score correlated with proficiency in delivering classroom lectures (.60), understanding student questions (.52), answering questions (.53), and communication during office appointments (.54). The TSE score also correlated (.68) with the degree to which the instructor's pronounciation interfered with student understanding. To a lesser extent the TSE score correlated with the instructor's "overall teaching effectiveness" ($\underline{r}$ = .29), and with other nonlinguistic variables, such as organization and planning, interpersonal relations, assignments and workload, and evaluation procedures. While FSI scores slightly exceeded TSE scores as predictors, both the TSE and FSI scores showed appreciably higher correlations with communicative effectiveness than did the background variables.

Conclusions

The high correlation between TSE and FSI scores indicates that the TSE may be considered a reasonable alternative to the FSI interview when it is not possible to carry out face-to-face testing. While the TSE grammar score is closely associated with TOEFL scores, the TSE pronunciation and fluency scores appear to measure somewhat different aspects of language proficiency than those measured by TOEFL or by the TSE grammar score.

21. Cowell, W. R. (1981, April). Applicability of a simplified three-parameter logistic model for equating tests. Paper presented at the meeting of the American Educational Research Association, Los Angeles.

Purpose

This study examined differences in TOEFL scaled scores produced by various methods used for equating TOEFL forms. The traditional linear equating method was compared with three different equating methods based on item response theory (IRT). For each model, equating was done based on both large samples and small samples to determine the importance of sample size in equating. Although data from the Secondary Level English Proficiency, or SLEP, test were also examined, this summary focuses on analysis of the TOEFL data only.

Background

Each TOEFL is equated to previous tests, to ensure that a given scaled score on one test is equivalent to the same scaled score on another. Until September 1978, TOEFL forms were equated by means of a linear equating model. Each test contained items from pretesting sections of previous tests, and these common items formed a basis for transforming scores on a given test to the scale used for previous tests. According to this model, a linear relationship was assumed to exist between the number correct and the scaled score. Since September 1978, equating methods based on the three-parameter model of IRT have been used as outlined by Lord.[1] This model assumes that, for each item on a test, the probability that an examinee with a given ability level will answer the item correctly is mathematically related to three parameters: (a) a measure of item discrimination, (b) a measure of item difficulty, and (c) the probability that a very low ability examinee will answer that item correctly. Statistics for the entire test are a composite of statistics for the items making up that test.

A second possible equating model is the simplified IRT model, which is the same as the three-parameter model, except that parameters "a" and "c" above are assigned constant values across all items, and only the item-difficulty parameter is assumed to vary. A third possible model is the Rasch one-parameter model, in which constant values are again assigned to parameters "a" and "c" (although not the same constants as in the simplified IRT model), and only the item-difficulty parameter is assumed to vary.

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[1]Lord, F. M. (1980). Applications of item response theory to practical testing problems. Hillsdale, NJ: Lawrence Erlbaum Associates.

Method

The subjects were subsets of examinees who took TOEFL at an International or Special Center administration in September 1976, September 1977, and August 1978. Numbers of subjects in the large sample analysis ranged from 2,069 to 3,172 examinees per test; Ns in the small sample analysis ranged from 292 to 317 examinees per test.

Item calibration (i.e., derivation of IRT parameters for each item) and test equating were done separately for each of the three test sections. Each section of the 1977 test form and the 1978 test form were equated to the 1976 form, for both the large sample and the small sample, using each of four different methods: (a) the linear method, (b) the three-parameter IRT method, (c) the simplified IRT method, and (d) the Rasch one-parameter IRT method. The resulting scaled scores were then examined, for each item in the test, to determine the degree of correspondence in results obtained according to the different equating methods.

Results and Conclusions

The differences in results obtained according to the linear equating and IRT equating models were relatively small over most of the score range for all three of the IRT equating models and for both the small and large sample sizes. On the average, the scaled score for a given raw score derived by these various methods differed by less than one point on the TOEFL scale. Thus, all of these equating methods evidently worked reasonably well and produced comparable results.

The simplified IRT model and the Rasch one-parameter IRT model produced results more closely approximating those produced by the linear model than did the three-parameter model. This is due to the fact that the three-parameter model resulted in a somewhat more curvilinear function relating raw and scaled scores: raw scores below a certain amount yielded slightly higher scaled scores, and raw scores above a certain amount yielded slightly lower scaled scores, than would be predicted by a linear relationship. As a result, the standard deviations of scaled scores based on the three-parameter model were about 6 percent smaller than those based on the linear model.

Comparison between pairs of IRT models yielded differences about one-half the magnitude of the differences between the linear model and each of the IRT models. Also, differences due to variation in model were about twice as large as differences due to variation in sample size. Estimation of costs required to equate tests according to each model showed that a more substantial reduction in cost would be achieved by a decrease in sample size than by a change from the three-parameter to the one-parameter model.

In conclusion, if the large-sample, three-parameter IRT approach now in use were to be replaced in order to simplify the task of test equating, the data suggest that it would be better to focus on reducing the sample size than on reducing the number of parameters in the model.

22. Cowell, W. R. (1982). Item-response-theory pre-equating in the TOEFL testing program. In P. W. Holland & D. B. Rubin (Eds.), Test equating (pp. 149-161). New York: Academic Press.

Purpose

This chapter describes the historical background of TOEFL test equating, the initial conversion to item-response-theory (IRT) equating, and the principal advantages of the use of IRT in determining scores on different forms of TOEFL.

Background

A new form of TOEFL is given each month at test centers in 135 countries. To ensure equivalent scores for persons of equal ability, regardless of the level of difficulty of the particular form of the test they were administered or the level of English proficiency of those with whom they took the test, each new form of TOEFL is equated to previous forms. A score is reported for each section on a scale ranging from 20 to 80. The total score equals ten-thirds times the sum of the scaled scores for the three sections. Prior to September 1978, equating was done by including in each new form a set of items from a previously equated form. Because the equating items had been used in a previous test, there was a danger that they might appear in commercial coaching materials or that they might be seen by test repeaters. In order to improve test security and thus the accuracy of the equating process, it was decided to switch to IRT equating methods.

Method

In July 1977 a feasibility study was initiated. The first phase involved the IRT equating of all TOEFL forms administered between September 1976 and May 1977, plus three experimental forms. The items in these forms and the items in several pretests were all calibrated to a common scale using a three-parameter model of item performance. In the second phase, new forms administered between September 1977 and August 1978 were equated by both conventional (linear) and IRT methodology.

Results

Score conversion tables show that IRT equating produced scores that were nearly identical to those obtained by linear equating. The largest differences were typically about two points per section, except at the

chance-score range, where differences as large as four points may have appeared. These differences cannot be considered error for either method, since there is no way to judge the superiority of one method over another. Differences were particularly small in the mid-scale range.

Conclusions

The fact that scores were nearly identical and that differences were smallest in the mid-scale range, which is usually where the critical decision-making point is located, means that item-response-theory can be employed operationally for TOEFL equating. The theory offers several advantages that make it attractive for this purpose. IRT equating information can be obtained from different pretests that can be given to relatively small samples (1,000 to 2,000) located at the most secure test centers. For tests consisting entirely of precalibrated items, equating can be done before the operational form of the test is administered, thereby reducing the number of operations to be performed during the period between test administration and score reporting. Finally, unlike linear equating, IRT equating produces measurement error that is not cumulative over forms.

23. Darnell, D. K. (1970). Clozentropy: A procedure for testing English language proficiency of foreign students. Speech Monographs, 37, 36-46. Also printed as "The development of an English language proficiency test of foreign students, using a clozentropy procedure." Final Report, U.S. Office of Education Project No. 7-H-010, 1968. (ERIC Document Reproduction Service No. ED 024 039)

Purpose

A procedure for obtaining scores on a cloze test was examined. Entitled "clozentropy," the procedure, in effect, measures the comparability of a foreign student's English with that of native speakers of English. For graduate and undergraduate students separately, clozentropy scores were compared with scores on TOEFL, which served as a criterion measure of English proficiency.

Method

The subjects were 48 foreign students at the University of Colorado--21 undergraduates, and 27 graduate students. Approximately half the subjects in each group were engineering majors and half were nonengineering majors. Also, 200 native speakers of English at the same university were given the clozentropy test (half undergraduate and half graduate and, within each group, half engineering majors and half nonengineering majors). The samples were chosen at random, with supplementation from volunteer subjects.

The foreign-student sample was administered the five-part TOEFL in a special testing session at the University of Colorado. Within a month after the TOEFL administration, all subjects were administered the clozentropy test (all but four of the foreign students took the clozentropy test within a week after TOEFL, in one of two special group administrations).

The clozentropy procedure can be described as follows. As in the typical cloze test, subjects (in both the foreign student sample and the native speaker sample) read a passage from which words were systematically replaced with blank spaces, and they sought to identify the words that had been deleted. For the native English speakers, the frequencies of different responses to each blank were computed and, for each blank, an "H" value ("entropy") was computed, which essentially varied with the number of alternative responses to that blank. Then, for every student, an "I" value was computed for each response, which reflected the rarity of that response in the native speaker sample (i.e., a high I value indicated that the response was rare; a low value showed that the response was common). Finally, for each subject, a deviation score, H minus I, was computed for each blank. The sum of a subject's deviation scores for all blanks

constituted that subject's clozentropy score. In effect, then, the higher a subject's clozentropy score, the more the subject's responses conformed with those of the native English speakers.

Four test passages were used in the study, each 500 words in length: an easy and a difficult passage from engineering texts, and an easy and a difficult passage from liberal arts texts. For each subject, a clozentropy score was obtained for each of these four passages as well as a total clozentropy score.

In addition to the clozentropy scores and scores on TOEFL (five part scores and total), each subject's grade-point average (GPA) was obtained.

Results

Reliability coefficients for the foreign student sample, computed by a method based on analysis of variance, were .85 for both the clozentropy test and TOEFL. Intercorrelations among scores for the four different clozentropy passages ranged from .53 to .65, providing additional evidence for the reliability of the clozentropy test.

Intercorrelations were computed among clozentropy scores, TOEFL scores, and GPA for the foreign students. A relatively high correlation of .84 was obtained between total clozentropy score and total TOEFL score (.88 for graduate students alone, .78 for undergraduates alone). Correlations between total clozentropy and the TOEFL subtests were all significant (all above .61). Interestingly, the Listening Comprehension subtest of TOEFL correlated about as highly with the clozentropy score (.74) as it did with the total TOEFL score (.75). GPA failed to correlate significantly with the clozentropy test or with any of the TOEFL subtests or total TOEFL score.

Analyses of variance assessing main effects and interactions involving seven different factors on the clozentropy scores were also computed. Because this portion of the study does not bear on TOEFL, results of these analyses will not be enumerated here, except to note that many variables, including the subject's level of English proficiency, the subject's major field, the context of the passage, and the difficulty of the passage, had a main effect or interaction effect on the clozentropy scores. It appears to be important, therefore, to consider the specialized needs of individual students in testing language proficiency.

Conclusions

The relatively high reliability coefficients for both TOEFL and the clozentropy score provide support for the reliability of the clozentropy score. The clozentropy battery took only half as long to administer as TOEFL, and further increases in reliability might be achieved by increasing its length.

24. Dizney, H. (1965). Concurrent validity of the Test of English as a Foreign Language for a group of foreign students at an American university. Educational and Psychological Measurement, 25, 1129-1131.

Purpose

This study was an early attempt to investigate the correlational validity of TOEFL. At the time of the study, published information about TOEFL validity included only correlations with instructors' ratings of language proficiency.

Method

The sample of students included 20 foreign students at Kent State University (19 males and one female) representing 15 countries. At the time of testing, 13 subjects had been in the United States for less than one month. Their ages ranged from 19 to 38, with a median of 23.5 years.

In September 1964 the subjects took the five-part TOEFL, the three-part Michigan Test of English Language Proficiency (MTELP), and the English subtest of the American College Test (ACT). The MTELP is a test of English proficiency consisting of three sections: Grammar, Vocabulary, and Reading Comprehension. [See Summary No. 1, Abadzi, 1976, for a further description of the test.] The ACT English subtest is part of a battery of tests for American students applying to U.S. colleges and universities and taps knowledge of English usage. In recent research it has shown a reliability of .84 and a correlation of .57 with grades in freshman English courses. In addition, the subjects were rank ordered with respect to English language proficiency by the foreign student adviser; this was done six weeks after the start of the fall quarter.

Results

The means and standard deviations for the tests were TOEFL: 538 and 106; MTELP (raw score): 79 and 18; ACT English (raw score): 31 and 14. Correlations among these tests were MTELP-TOEFL: .97; MTELP-ACT English: .65; TOEFL-ACT-English: .74. Rank-order correlations between English language proficiency ratings and ranks on each standardized test were as follows: MTELP: .78, TOEFL: .75, and ACT English: .62.

Conclusions

For this sample TOEFL and the MTELP were highly correlated (r = .97). Thus, use of both tests to assess English proficiency may be redundant. TOEFL accounted for almost 13 percent more variance on the ACT English subtest than did the MTELP. The difference between TOEFL and MTELP correlations with the foreign student adviser's rankings of English language proficiency was negligible.

25. Doherty, C., & Ilyin, D. (1981). Technical manual for ELSA: English language skills assessment in a reading context. Rowley, MA: Newbury House.

Purpose

This manual describes the development of a set of tests entitled English Language Skills Assessment in a Reading Context (ELSA) and provides statistics from several samples showing the reliabilities of the tests and correlations with other measures of English language proficiency, including TOEFL. The ELSA tests were designed to meet a placement need for the more than 10,000 adults who enroll annually in English as a second language (ESL) classes in adult schools in San Francisco.

Method

Data are reported for several different testing samples, drawn from adult ESL programs in San Francisco and from intensive English programs at the University of San Francisco and San Francisco State University.

The ELSA tests use a multiple-choice cloze format. Five different ELSA tests were constructed: two beginning tests, two intermediate tests, and one advanced test. For the beginning and intermediate levels, one test used a passage with a conversation format (tests BC and IC), and another test used a passage with a narrative format (BN and IN). The advanced test used only a narrative format (AN).

Each test was constructed by writing passages in which every seventh word elicited a specific aspect of structure or semantics; deletion of these words produced 33 blanks. Testing with several hundred students led to selection of the best 25 items (such that no more than 14 words appeared between blanks) as well as identification of frequent errors, which then served as distractors in the final tests. The final version of each test consisted of 25 items and required about 30 minutes to administer.

The ELSA tests were compared with several other tests of English proficiency. One such test was TOEFL [presumably the three-part version] administered through the International/Special Center programs. Another was the Comprehensive English Language Test for Speakers of English as a Second Language (CELT). Two subtests of the CELT were used. The Structure subtest consists of 75 multiple-choice items in a reading format. The Listening subtest contains 50 items; for each item the subject listens to a script and responds to one of several printed alternatives. [For a further description of the CELT, see Summary No. 41, Hosley & Meredith, 1976.] The Listening Comprehension Picture Test (LCPT) is a multiple-choice listening test in which the subject listens to orally presented information, then hears a question and identifies the one picture of five that depicts the correct answer. The Michigan Test of English Language

Proficiency (MTELP) (Forms A, B and C) tests grammar, vocabulary, and reading comprehension. [For a fuller description see Summary No. 1, Abadzi, 1976.] In the Structure Tests for English Language (STEL) (intermediate forms), students read and respond to 50 multiple-choice items.

Data were collected on different occasions from approximately 10 different samples of subjects between the fall of 1978 and the summer of 1980, for a total of several hundred subjects.

Results

The first results of interest concern reliabilities of the ELSA tests (KR-20 formula was used for beginning tests and KR-21 for other tests). The two beginning tests (BC and BN), for which data from over 600 subjects were available, yielded reliabilities in the low 80s. The combination of the two beginning tests yielded a reliability of .92. Of the two intermediate tests, test IN yielded reliabilities of .79 and .80 in two separate samples (Ns = 73 and 158, respectively). Test IC yielded reliabilities of .76, .80, and .82 in three separate samples (Ns = 73, 212, and 115, respectively). Combination of the two intermediate tests yielded a reliability of .88 in each of two samples (Ns = 73 and 105, respectively). The advanced test showed reliabilities of .80 and .83, respectively, when given to (a) a combination of adult center and intensive English classes (N = 250), and (b) to a later sample of intensive English classes (N = 115). Reliabilities computed separately for each level of English language study tended to be somewhat lower, due to restriction of range. Combinations of tests generally yielded higher reliabilities than did single tests.

Correlations between the LCPT (25-item version) and the two ELSA beginning tests were significant and moderately high, ranging from .58 to .61 (N = over 400 students). The correlation between the two beginning ELSA tests (BC and BN) was .82 (N = 664).

Correlations between the ELSA intermediate tests and scores on the LCPT (33-item version) were significant and ranged from .53 to .58; correlations between the ELSA intermediate tests and the STEL were .79 to .82 (N = 73 for both sets of correlations). The ELSA IC test correlated .73 with the MTELP and .83 with TOEFL (N = 113). [The relations between test IN and the other tests are not reported.] The correlation between the two intermediate ELSA tests (IC and IN) was .84. [N not indicated.]

The advanced ELSA test (AN) correlated .80 with CELT-Structure (N = 77), .56 with CELT-Listening (N = 75), and .82 with the MTELP (N = 113). Correlations between the ELSA advanced test and TOEFL in two separate samples were .73 and .84 (Ns = 77 and 29, respectively).

Conclusions

Correlations between the ELSA tests and other tests of English proficiency were relatively high, attesting to the validity of the ELSA tests. The relatively high correlations between forms of the beginning test suggest that these tests can be substituted for each other. The same is true for the two forms of the intermediate test. Also, the correlations between the intermediate tests and the STEL (.79 and .82) were high enough to suggest that the intermediate ELSA tests, which are shorter, could be used in place of the STEL if testing time were limited. The advanced test correlated highly enough with CELT-Structure (.80) to substitute for this measure; the same was not true, however, of CELT-Listening.

The correlations between the advanced test and TOEFL (.73 and .84 for two samples) are suggestive. Conclusions about the magnitude of relationship between these tests, however, must await research with larger samples.

26. Dunbar, S. B. (1982). Construct validity and the internal structure of a foreign language test for several native language groups. Paper presented at the annual meeting of the American Educational Research Association, New York.

Purpose

Confirmatory factor analysis was used to examine the factor structure of TOEFL for each of seven language groups. The objectives were to determine (a) whether performance on TOEFL reflects the content specifications of the test, as shown in the test's factor structure, and (b) whether there are differences among language groups in this respect.

Method

The subjects were examinees taking the September 1976 administration of the three-part TOEFL. There were approximately 600 to 1,000 subjects from each of the following language groups: African, Arabic, Chinese (non-Taiwanese), Farsi, Germanic, Japanese, and Spanish. The African languages consisted of Efik, Fanti, Ibo, and Yoruba; the Germanic consisted of Danish, Dutch, German, and Swedish. (The sample was the same as that used in the study by Swinton and Powers, 1980.) A reference sample of close to 1,000 subjects drawn from all language groups in the test administration sample was also included in the study.

For the present analyses the test was scored in the following manner: for Listening Comprehension, seven different composite scores were derived, two or three composite scores for each of the three different subtypes of items used in this section, according to TOEFL item specifications; for Structure and Written Expression, four different composite scores were computed, one for each of the four item subtypes; and for Reading Comprehension and Vocabulary, seven composite scores, three or four for each of the two item subtypes.

Results and Conclusions

The language groups differed from each other in total TOEFL scores, with the Germanic group differing most dramatically from the rest, showing the highest mean score and lowest variability in scores.

Confirmatory factor analyses were conducted. Estimates of factor loadings were obtained for three hypothetical models: (a) a null model, assuming complete independence of subscores; (b) a model with one general factor; and (c) a model with four factors--a general factor (Factor I) plus one factor corresponding to each of the three TOEFL subtests

(Factors II, III, and IV). Goodness of fit analyses showed that the model with one general factor accounted for the subjects' performance much more accurately than did the null model, and that the four-factor model provided an even better fit to the data. (Note that the issue regarding the total number of factors needed to account for the data is not addressed with confirmatory factor analysis.)

In the analysis involving four factors, intercorrelations among the four factors were examined for each of the language groups. For the African group, intercorrelations among Factors II, III, and IV were relatively high, particularly the correlation of Factor IV with Factor II (.83) and Factor III (.92). For the Arabic, Chinese, and Germanic groups, Factor III showed moderate to high correlations (.48 to .82) with Factors II and IV. These data suggest that, for different language groups, different numbers of factors may be required to account for the data.

The issue of language group differences in factor structure was addressed in other analyses as well. Targeted rotations of factor pattern matrices were derived to allow comparison of the factor structure for each language group with that for the reference sample. The resulting "congruence coefficients" in comparisons with the reference sample were uniformly high for Factor I, the general factor (coefficients ranged from .991 to .998, with 1.000 as the maximum possible coefficient), and for Factor II, the factor corresponding to the Listening Comprehension section (coefficients ranging from .969 to .998). For Factor III (which corresponded to the Structure and Written Expression section), congruence coefficients were high for three language groups, Arabic, Chinese and Germanic (.959 to .995), but not nearly so high for the Japanese (.615), African (.859), Spanish (.881), and Farsi (.906) groups. This result calls into question the assumption of equivalence of Factor III across language groups.

For Factor IV (which corresponded to the Reading Comprehension and Vocabulary section), all congruence coefficients were above .985 except those for the Spanish group (.870) and the African group (.932). Thus, for Factor IV, congruence with the reference sample seemed generally high, although some language differences involving this factor were evident.

Further analyses helped to determine the role and interpretation of the various factors. The general factor dominated the factor structure for all language groups. After the general factor was partialed out, the Listening Comprehension items supported a relatively large factor (Factor II); the seven different composite scores (types of content) in the Listening Comprehension section appeared to be about equal to each other in their degree of loading on this factor. Factor III was a much less prominent factor, as loadings of the composite scores on this factor were as small as one-eighth the size of their loading on the general factor; as with Listening Comprehension, the different composite scores in the Structure and Written Expression section appeared to be about equal in their degree of loading on Factor III. For Factor IV, the largest loadings were for vocabulary item types, as the loadings of reading comprehension item types were very small (the reading item types, instead, loaded

heavily on the general factor). Thus, Factor IV appeared to be b sically a vocabulary factor.

In general, the data show the dominance of the general factor and, at the same time, show the importance of factors associated with different sections of the test. The data also provide moderate support for the notion that the factor structure of TOEFL is similar across language groups. This similarity appears to be due primarily to the general factor and, to a lesser extent, Factors II and IV. Although there were some language group differences involving Factor III, this factor itself was quite small in relation to the general factor, thus tending to lessen the impact of any group differences. Despite these observations, evidence of at least some differences among language groups in number and nature of factors suggests the possibility, which deserves further investigation, that TOEFL subtest scores may have differential validity for different language groups.

27. Educational Testing Service. (1973). Manual for TOEFL score recipients. Princeton, NJ: Author.

Purpose

This document is an earlier version of the TOEFL Test and Score Manual (Educational Testing Service, 1981) summarized elsewhere in this collection. This 1973 edition is the most recent manual that deals with the five-part TOEFL and is summarized here primarily to present statistical data for that version of the test. In most other respects the two editions of the manual are similar, so the narrative in this edition is summarized only where it differs from that presented in the 1981 version.

Discussion

In 1973 TOEFL could be taken at International, Institutional, and "walk-in" administrations. In the International Testing Program, TOEFL was administered on four test dates per year. The Institutional Testing Program was offered only within the United States and Canada. "Walk-in" test centers were established at six locations in the United States at which TOEFL was administered, usually on a weekly basis, as a service to institutions with an immediate need for TOEFL scores of applicants currently in the United States.

Statistical characteristics of the test were examined for all forms of TOEFL administered from October 1966 through June 1971. Mean KR-20 reliabilities for the five sections and total were Listening Comprehension, .90; English Structure, .86; Vocabulary, .89; Reading Comprehension, .84; Writing Ability, .86; and total score, .97. Mean standard errors of measurement for the five sections and total, respectively, were 3.0, 2.9, 2.8, 3.3, 2.9, and 14.77. This last figure indicates that any two examinees' TOEFL scores should not be interpreted to represent different levels of proficiency unless the difference between their scores was greater than about 30 points [see Summary No. 28, Educational Testing Service, 1981, for explanation].

Intercorrelations among subtests, averaged over the forms mentioned above, were as shown in Table 1.

Table 1

Intercorrelations among TOEFL Subtests

TOEFL Subtest	LC	ES	V	RC
Listening Comprehension (LC)				
English Structure (ES)	.64			
Vocabulary (V)	.56	.72		
Reading Comprehension (RC)	.65	.67	.69	
Writing Ability (WA)	.60	.78	.74	.72

Tables are also presented in the manual showing the percentile ranks corresponding to various TOEFL scores, broken down by intended major field. The data are based on the 215,486 examinees seeking admission to U.S. colleges and universities who took TOEFL from October 1966 through June 1971. The data are tabulated separately for (a) graduate candidates, (b) undergraduate candidates, and (c) all candidates, for total TOEFL score and for each section. Also, TOEFL score means are presented for each native language and each native country represented.

The use of TOEFL scores is discussed, and a table is presented showing data from a 1969 survey of institutions regarding the role of TOEFL in their admissions practices. Presented separately for institutions with and without special ESL courses, and separately for undergraduate and graduate applicants, are the numbers of institutions for whom the lowest acceptable score ranges for admission of candidates were (a) below 400, (b) between 400 and 449, and so forth. Also, a composite of the admissions policies of two U.S. universities with large numbers of foreign students is provided, which shows the kinds of decisions associated with each of several ranges of total TOEFL scores. Decision possibilities include admission with or without restrictions depending on the students' patterns of TOEFL section scores, their educational levels, and, for graduate students, their intended major fields.

In other respects, the information presented in the manual is generally similar to that presented in the 1981 version, including a brief overview of TOEFL's early history, a description of the test, illustration of the score report, and a discussion of guidelines for proper use of TOEFL scores.

28. Educational Testing Service. (1981). TOEFL test and score manual. Princeton, NJ: Author.

Purpose

This manual presents a description of TOEFL, explains the operation of the TOEFL program, and provides information and statistics relevant to interpretation of TOEFL scores.

Discussion

An overview of the TOEFL program is offered first, with a brief account of the history of TOEFL, beginning with its initial development in 1963. The three subtests (sections) of the current TOEFL are described, and the process of constructing test questions is briefly discussed. The procedures for reporting test results are outlined with an illustration of the TOEFL score report and an explanation of the methods for deriving section scores and combining section scores into total scores. [See Introduction for a description of the three-part TOEFL and for reference to summaries detailing TOEFL's history.]

The four major TOEFL testing programs are described. These include the International and Special Center testing programs, each of which provides test administrations (typically every other month) for persons seeking admission to institutions in the United States or Canada or seeking professional certification. Also included are the Institutional Testing Program and the Overseas Institutional Testing Program, which provide previously used TOEFL forms to institutions for testing their own students, principally for placement in English courses or determining the need for additional English study.

In a discussion of the use of TOEFL scores, the following guidelines are presented: (a) base the evaluation of an applicant on all available relevant information; (b) do not use rigid "cut-off" scores in assessing an applicant's TOEFL performance; (c) consider scores on the three test sections as well as the total scores; (d) consider the kinds and levels of English proficiency required in different fields and levels of study and the admitting institution's capacity to provide English language training; (e) consider TOEFL scores in interpreting an applicant's performance on other standardized tests; (f) do not use TOEFL scores for predicting academic performance; and (e) gather information about the validity of TOEFL score requirements at the admitting institution.

Results of a 1980 survey of institutions regarding their use of TOEFL scores in admissions decisions are provided. Data from 386 respondents (principally four-year undergraduate institutions and graduate and professional schools) show the kinds of TOEFL score ranges considered

acceptable for making various decisions, including (a) admit with no restrictions, (b) admit on part-time basis with supplementary English instruction, and (c) refer to full-time English program.

Data for a reference group (N = 473,944) of examinees taking TOEFL between September 1978 and August 1980 are presented. Mean scores were Listening Comprehension, 51.5 (SD = 6.9); Structure and Written Expression, 48.6 (SD = 7.8); Reading Comprehension and Vocabulary, 49.4 (SD = 7.2); and total score, 499 (SD = 67). Percentiles corresponding to various scores are provided, and breakdowns are given by planned level of study (or licensure) and by examinees' native language and native country or region.

Statistical characteristics of the test are provided for the seven forms of the test administered between February 1980 and August 1980. [N not indicated.] The data show the difficulty levels of these forms to be appropriate, as the average raw score per section ranged from 54 to 69 percent correct (62.5 percent provides the best measurement). (Note that differences among forms are corrected in computing the scaled scores reported to students and institutions.) Speed was apparently not a major factor, as the data met the conditions used by Educational Testing Service to determine adequacy of time allowed, namely, (a) 80 percent of examinees should finish nearly every question in each section, and (b) three-fourths of the questions in a section should be completed by nearly all examinees.

Reliabilities (KR-20) for the seven forms ranged from .86 to .89 for Listening Comprehension, .81 to .87 for Structure and Written Expression, .86 to .90 for Reading Comprehension and Vocabulary, and .93 to .95 for total score. Standard errors of measurement, averaged across forms, were 2.2 for Listening Comprehension, 2.9 for Structure and Written Expression, 2.5 for Reading Comprehension and Vocabulary, and 14.6 for total score. The last figure shows that an examinee's "true score" (i.e., hypothetical score that would be achieved if there were no errors of measurement) is within 14.6 points of the observed score for two-thirds of the examinees, and double this figure, or about 29 points, for 95 percent of the examinees. Thus, two examinees' scores cannot be regarded as representing different levels of proficiency unless there is a difference of at least 29 points between them.

Averaged over the seven forms, Listening Comprehension correlated .70 with Structure and Written Expression and .68 with Reading Comprehension and Vocabulary; the latter two subtests correlated .77 with each other. Thus, there appears to be a reasonably strong relationship among skills tapped by the different sections, but the section scores still provide some unique information.

The question of validity is considered, with reference to several studies summarized in this collection as well as some unpublished data. In general, the studies examined suggest that (a) TOEFL correlates relatively highly with other standardized measures of English proficiency; (b) relevant sections of TOEFL correlate reasonably highly with direct measures of writing ability; (c) TOEFL discriminates effectively among

foreign students but not among native speakers of English; and (d) the discrimination power of standardized aptitude tests is greatest for students who do not have low TOEFL scores.

Brief additional sections of the manual discuss procedures at TOEFL test centers, describe other tests developed by the TOEFL program, and list various TOEFL publications, order forms, and research reports.

29. Flahive, D. E. (1980). Separating the g factor from reading comprehension. In J. W. Oller, Jr., & K. Perkins (Eds.), Research in language testing. Rowley, MA: Newbury House.

Purpose

Two questions of interest in this study were: What is the role of intelligence in language comprehension? and, To what extent is reading comprehension associated with intelligence? Information relevant to these questions was obtained by examining the interrelationships among a nonverbal IQ test, TOEFL, and three reading tests.

Method

The subjects were 20 students, representing seven different native languages, in a semi-intensive English class. The subjects' TOEFL scores averaged 509 and ranged from 437 to 568.

Five tests were administered within a one-week period. The Raven's Progressive Matrices Test (Standard Form), a measure of nonverbal intelligence, requires the subject to examine a pattern that has a portion missing and to choose, from among eight alternatives, the one that best completes the pattern. The five-part TOEFL was administered; only the total score was used in this study. The first of three reading tests was the McGraw-Hill Basic Skills System Reading Test. It consists of 10 passages, five of approximately 250 words each, and five of approximately 75 words each, followed by 30 multiple-choice questions. This test measures the subject's ability to make inferences, to identify main ideas and supporting points, and to discover organizational patterns. The second reading test, the Perkins-Yorio test, contains 50 items; in each item the subject reads a sentence and then chooses, from among four alternatives, the sentence that best paraphrases the target sentence. The third reading task was a cloze test that contains a passage of approximately 400 words from an introductory economics text. Every seventh word has been deleted, to yield a total of 50 blanks, and, for each blank, the subject is required to determine the missing word. The appropriate-word scoring method was used; i.e., suitable substitutes for each deleted word were accepted as correct.

Results and Conclusions

The mean score on the Raven's test was just above the 75th percentile of the norming group for this test, suggesting that the subjects were above average in nonverbal intelligence. Performance on the McGraw-Hill

test ranged from the 9th to the 85th percentile compared to a reference group of college freshmen and sophomores, indicating a wide range of proficiency; consistent with this is the wide range of TOEFL scores reported above. Perkin-Yorio scores were only slightly lower than those of a reference group of college freshmen.

Table 1 presents the intercorrelations among measures.

Table 1

Intercorrelations among Tests Used in the Study

	Raven's Test	TOEFL	McGraw-Hill Test	Perkins-Yorio Test
Raven's Test				
TOEFL	.61			
McGraw-Hill Test	.84	.59		
Perkins-Yorio Test	.68	.84	.67	
Cloze Test	.61	.75	.65	.62

The relatively high correlations among most of these tests are not surprising, since most of the tests measure reading and/or language proficiency. However, the high correlation between the Raven's and McGraw-Hill tests is unexpected, since the former is a measure of nonverbal intelligence and would not be expected to be a strong predictor of reading performance. Single- and multiple-regression analyses showed that adding TOEFL to the Raven's test significantly improved prediction of scores on the Perkins-Yorio and cloze tests but not scores on the McGraw-Hill test; this result again reflects the strong relationship between the Raven's test and the McGraw-Hill multiple-choice reading test.

In general, the high correlations among tests observed here suggests that intelligence is a major component of performance on reading subtests in widely used measures of nonnative language skills.

30. Gaies, S. J. (1976, May). Sentence-combining: A technique for assessing proficiency in a second language. Paper presented at the Conference on Perspectives on Language, University of Louisville, Louisville, KY. (ERIC Document Reproduction Service No. ED 130 512)

Purpose

Indirect measures such as those included in TOEFL measure the ability to recognize but not produce syntactically correct sentences, and written compositions directly measure a combination of many aspects of writing. The present study assessed the effectiveness of a rewriting task as a direct measure of a specific component of students' writing ability: syntactic control. Performance on the rewriting task was examined in relation to performance on selected TOEFL subtests for learners of English as a second language.

Method

The study included a total of 41 subjects--16 native speakers of English in graduate school at Indiana University, five highly proficient nonnative speakers in graduate school, and, in the principal sample, 20 nonnative speakers of English in intensive English language classes.

The subjects were given the rewriting task developed by O'Donnell and described by Hunt (1970).[1] The subjects were given a passage consisting of many very short sentences, and they were asked to rewrite the passage by combining sentences, changing word order, and eliminating redundancy.

Three scores were derived from this task, reflecting syntactic maturity of the subjects' rewritten passages: (a) words per clause, (b) clauses per T-unit, and (c) words per T-unit (which combines the first two scores). The T-unit is defined as "one main clause plus any subordinate clause or nonclausal structure that is attached to or embedded in it" (Hunt, 1970, p. 4). The subjects' scores on the five-part TOEFL were also available [presumably from International administrations].

Results and Conclusions

The native speakers in this study performed similarly to the skilled adults in Hunt's study, and the five proficient nonnative speakers here

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[1]Hunt, K. W. (1970). Syntactic maturity in school children and adults. Monographs of the Society for Research in Child Development, 35, (Serial No. 134).

performed at an even higher level. The target sample of 20 nonnative speakers, however, showed an average level of syntactic complexity comparable to that of the seventh graders in Hunt's study (although a wide range of scores was observed here). The average number of words per clause for these nonnative speakers was 6.25 (range: 4.59 to 8.57); clauses per T-unit, 1.27 (range: 1.00 to 1.67); and words per T-unit, 7.96 (range: 4.59 to 12.22).

Spearman rank correlations for the 20 nonnative speakers were computed among the three rewriting scores, TOEFL total, and two TOEFL subtests, English Structure and Writing Ability. Low correlations were observed between TOEFL English Structure and rewriting scores (ranging from .01 to .32). This result suggests that the ability to recognize correct grammatical structure is not always accompanied by proficiency in writing, and that active and passive skills in grammar are not necessarily related. Correlations involving TOEFL Writing Ability were .49 to .57, and correlations involving TOEFL total were .23 to .55.

Definitive judgments of the rewriting task's effectiveness cannot be made from this study, and later research should (a) look into refinements in the scoring method, (b) examine performance with additional stimulus materials, and (c) examine the degree to which the rewriting task correlates with free writing samples.

31. Gharavi, E. (1977). Admission of foreign graduate students: An analysis of judgments by selected faculty and administrators at North Texas State University (Doctoral dissertation, North Texas State University, 1977). Dissertation Abstracts International, 38, 1148A. (University Microfilms No. 77-19, 668)

Purpose

This study sought to determine, by use of the Judgment Analysis (JAN) technique, the admissions policies of faculty and administrators at North Texas State University for foreign graduate students.

Method

The subjects were 64 male Iranian graduate students randomly selected from among all 123 Iranian graduate students enrolled at North Texas State University during the spring semester of 1976. For each subject, data on the following variables were obtained from the graduate admissions office: age, marital status, school last attended, degrees held, years of English study, grade-point average (GPA) in English courses, score on the five-part TOEFL [presumably obtained in an International administration], monthly income, Graduate Record Examinations (GRE) Aptitude Test verbal score (GRE-V), GRE quantitative score (GRE-Q), GRE total score, credit hours attempted during the first semester of enrollment, credit hours completed, cumulative first-semester GPA, and major field. [The GRE Aptitude Test is described briefly in Summary No. 4, American Association ..., 1971.] A profile data sheet was constructed for each subject that included information on all of the above variables.

Twenty-eight judges (eight members of the central administration and 20 departmental graduate advisers) examined the profile data sheets and rated each subject on a five-point scale: 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = outstanding. Each judge used whatever information in the profile he or she thought most useful to judge the quality of the student, essentially simulating the type of rating that might be made in rendering an admissions decision [except that certain information used here, such as first-semester GPA, typically would not be available at the time of an admissions decision]. These ratings were analyzed using JAN, with the objective of determining which variables were commonly used by the judges, and how the variables were weighted, to assign ratings. In essence, JAN analyzes the predictor equation used by each judge--i.e., the equation predicting the rating from the variables listed above--and then examines the consistency of the predictor equations across judges. A stepwise multiple regression analysis was also conducted to determine the effect of each predictor variable on the predictive efficiency of the full regression model used in the JAN procedure.

Results

Statistical analysis of the different policies (i.e., prediction equations) used by the 28 judges showed that the policies of 20 of the judges could be classified into seven different types of policy, with each of the remaining eight judges using a policy unique to the individual. Thus, although there was some consistency in the manner in which the judges made their ratings, the judges did not use a single policy for judging the subjects' qualifications. The strongest predictor variables (TOEFL, GRE-V, GRE-Q, GRE total, and first-semester GPA) showed high positive correlations with the judges' ratings. [Correlations with individual policies are given. However, correlations between the predictor variables and the ratings assigned by the entire group of 28 judges are not.] Monthly income in U.S. dollars was negatively correlated with the judges' ratings. The most frequently considered variable was the TOEFL score, which contributed significantly to the prediction equation for each of the seven types of policy mentioned above (i.e., those associated with more than one judge each).

JAN was found to be reliable in identifying and analyzing rating admission policies. Also, JAN showed that by attempting to group all judges into one judgmental policy, the predictive efficiency of the system dropped dramatically from .76 to .32, a 44 percent loss in predictive efficiency.

Conclusions

It appears that, for the sample studied, (a) there was no single admissions policy for foreign graduate students; (b) while individual judges were reliable in their ratings, policies varied across judges and groups of judges; and (c) the most salient variables considered in the admissions process for foreign graduate applicants were the TOEFL score, GRE-V, GRE-Q, GRE total, and first-semester GPA. It is suggested that in future studies judges be restricted to rating only applicants to their own departments, rather than all applicants.

32. Gradman, H. L., & Spolsky, B. (1975). Reduced redundancy testing: A progress report. In R. L. Jones & B. Spolsky (Eds.), Testing language proficiency. Washington, DC: Center for Applied Linguistics.

Purpose

This paper summarizes the results of several studies involving the noise test, a form of dictation test in which white noise is added to the stimulus message. Of the research discussed in the paper, an experiment examining the relation of the noise test to TOEFL is emphasized in this summary.

Background

The rationale underlying the noise test is that a decrease in redundancy of the message in a dictation test, such as that produced by background noise, should result in a greater increase in the difficulty of the dictation test for a nonnative English speaker than for a native English speaker. Thus, differences between these groups should be accentuated, allowing greater precision of measurement.

The original work with the noise test consisted of several experiments designed to develop the most effective test.[1] The effects produced by varying the specific sentences used, the signal to noise ratio, and other factors were examined. The final version of the test correlated .66 with both an aural comprehension test and an objective paper-and-pencil test, and .51 with an essay test. Other investigators have observed correlations in the .50s between the noise test and other [unspecified] measures of English proficiency.

Method

In the experiment involving TOEFL, the subjects were 26 Saudi Arabian students in a special English training program at Indiana University. The students were all given the noise test, the five-part TOEFL, the Ilyin Oral Interview, and the Grabal Oral Interview.

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[1] Spolsky, B., Sigurd, B., Sako, M., Walker, E., & Arterburn, C. (1968). Preliminary studies in the development of techniques for testing overall second language proficiency. Language Learning, 18, Special Issue No. 3, 79-101.

The noise test used here was a multiple-choice version in which the subjects were given five alternatives and told to choose the one that most closely approximated the sentence that was presented on tape with accompanying white noise. The 50 sentences developed in the original work cited above were used. In the Ilyin Oral Interview, the subject is shown pictures and asked specific questions about them. The Grabal Oral Interview is a test of free conversation; the subject's responses are rated on a nine-point scale for 10 categories by two separate judges.

Results and Conclusions

The noise test correlated .75 with total TOEFL score, which was higher than its correlation with any other test or any TOEFL subtest. All correlations involving the noise test were above .60, except the correlations with English Structure (.44) and Writing Ability (.33). Unexpectedly, the noise test correlated .73 with TOEFL Vocabulary and .68 with Reading Comprehension.

The Grabal Oral Interview correlated .73 with TOEFL total. Of correlations reported between this measure and the TOEFL subtests, the correlation with Vocabulary was .71, but that with Writing Ability was only .17, and that with Reading Comprehension was .38. The correlation between the Ilyin Oral Interview and TOEFL was .54.

Other reported results include a correlation of .69 between the noise test and the Ilyin Oral Interview and a correlation of .59 between the Ilyin and Grabal Oral Interviews. [Note that, as an integrative paper, this report is not designed to present all possible correlations.]

The data indicate that the noise test was somewhat more highly related to a discrete item test, TOEFL, than to either of the oral interviews, which are presumably more functionally oriented. This may be due partly to the fact that the noise test used here was a multiple-choice type, so that it was, in effect, a cross between a functional test and a discrete item test. In general, the results suggest that the noise test functioned well, providing a type of data that was not provided by the somewhat less structured interviews.

The data from this experiment are generally in line with the results obtained in another study involving 25 Saudi Arabian students administered the noise test, the Grabal Oral Interview, and the TOEFL. In that study the noise test correlated .66 with TOEFL total, .75 with TOEFL Listening Comprehension, and .79 with the Grabal Oral Interview.

Additional Discussion

Results from subsequent research on the noise test not involving TOEFL are also discussed. In one study, both the multiple-choice and

original dictation version of the noise test were administered to 17 native speakers of English and 17 nonnative speakers. For each test, the top scores were earned by native speakers and the bottom scores by nonnative speakers, showing that the test effectively discriminates between these two groups. The two forms of the test correlated .89 for the nonnative speakers, indicating that both forms tend to measure the same thing. In an additional study with 71 nonnative English speakers, the standard (non-multiple-choice) form of the test correlated .56 with the Indiana University placement examination, a test of English proficiency with several subtests.

In general, the data show that the noise test clearly separates native from nonnative speakers; it correlates relatively well with other measures of language proficiency; and it discriminates well between weak and strong nonnative English speakers. Among the test's advantages is its ease of administration and scoring.

33. Gue, L. R., & Holdaway, E. A. (1973). English proficiency tests as predictors of success in graduate studies in education. Language Learning, 23, 89-103.

Purpose

This research studied the validity of TOEFL scores and interviews as predictors of grade-point average (GPA) among a group of Thai graduate students in education. Gain in TOEFL scores as a result of participation in an intensive English language program was also assessed.

Method

The subjects were 123 Thai educators participating in 1967 through 1970 as graduate students in a one-year program in education at the University of Alberta. The areas of the subjects' specialization were administration, supervision, academic curriculum, industrial arts, and guidance and counseling. The subjects ranged in age from 25 to 56 years; 79 were males and 44 were females.

The subjects were administered the five-part TOEFL twice. The first administration was in late June or early July after arrival at the University of Alberta; this administration is here termed the "summer TOEFL." Three months later the subjects were administered TOEFL again; this administration is termed the "fall TOEFL." In the intervening period, the subjects participated in an intensive English language program. For each subject, the GPA was computed at the end of the one-year educational program. Interview scores were also collected by Canadian interviewers in Thailand prior to selection of the students for admission to the program in 1967 and 1968. The 1967 panel ratings were given as one global score, while 1968 panel ratings were subdivided into scores labeled "language fluency" and "potential for the Alberta program."

Results

Intercorrelations among TOEFL subtest scores were computed, with subjects pooled across years. Correlations among subscores ranged from .62 to .82; all of these correlations were significant at the .01 level. The correlations within each of the years showed more variation, the extremes ranging from .37 to .89. For data from each of the separate years, the highest correlations were between English Structure and Writing Ability ($r \geq .70$) and between Vocabulary and Writing Ability ($r \geq .65$). A

two-factor factor analysis with varimax rotations was conducted for summer and fall TOEFL scores, with data pooled across years. The first factor identified was most closely associated with English Structure and Writing Ability; the second factor was closely associated with Listening Comprehension and with Reading Comprehension. A three-factor analysis identified the same first factor; a second factor, on which Reading Comprehension and Vocabulary subscores showed the highest loadings; and a third factor, on which Listening Comprehension showed the highest loading.

The subjects' grades ranged from 1 to 9, with 5 considered a passing mark. Overall, the average GPA of the subjects was 6.6, with the range extending from 6.4 to 6.9 over individual years. Mean scores on the summer TOEFL ranged from 374.3 to 452.5, with an overall mean of 424.6. Fall TOEFL score means ranged from 391.7 to 480.2, with an overall mean of 447.8 across years. For each year, fall TOEFL scores were 20 to 30 points higher than summer TOEFL scores. Over the four years, intercorrelations among summer TOEFL subscores and fall TOEFL subscores ranged from .28 to .73. For data pooled across years, summer and fall TOEFL scores correlated .49 and .59 with final GPA; these correlations were significant at the .01 level.

Table 1, based on pooled data, summarizes the TOEFL summer and fall subscore means, the correlation of summer and fall subscores with GPA, and the level of significance of the correlations.

Table 1

Mean and Correlation of Each TOEFL Subtest with GPA

Subtest	Time	Mean	GPA-Subtest Correlation
Listening Comprehension	Summer	43.6	0.38
	Fall	46.8	0.52
English Structure	Summer	44.6	0.51
	Fall	47.2	0.55
Vocabulary	Summer	39.6	0.34
	Fall	42.4	0.48
Reading Comprehension	Summer	42.0	0.38
	Fall	43.1	0.51
Writing Ability	Summer	42.5	0.51
	Fall	44.4	0.53

Note. All correlations are significant at the .01 level.

Stepwise multiple regression analysis was used to predict GPA from summer TOEFL subscores for each program year and for program years combined. The results did not consistently identify any single TOEFL subscore as more important than any other subscore in predicting GPA. The addition of interview panel ratings as predictor variables in regression analyses for 1967 and 1968 students led to contrasting results. The 1967 interview panel rating did not add significantly to prediction of GPA. In contrast, the language fluency rating obtained in the 1968 interview by itself accounted for 41.5 percent of final GPA variance; this rating was far more important in predicting final GPA than were the summer TOEFL subscores.

Conclusions

The high intercorrelations among TOEFL subscores were consistent with the results of previous studies. The clustering of Vocabulary, English Structure, and Writing Ability into one factor suggested that TOEFL could be reduced in length without loss of predictive power.

The contents of some Listening Comprehension items might be criticized, as the use of narratives concerning disasters and unhappiness could affect examinees' responsiveness. In addition, the TOEFL scores obtained in the present study might have been affected by the organizational climate of test taking: the examinees were aware that their TOEFL scores would not be used for their selection into a program, and this awareness may have had an indeterminate effect on their performance.

Gains in TOEFL scores across summer and fall administrations were encouraging and were greatest for those students who needed the summer language program the most. Nineteen other students, however, earned lower TOEFL scores in the fall than in the summer. Reasons for these declines were not apparent.

A number of factors may constrain the generalizability of the results obtained, including differences in Thai student cohorts participating in the study and the grading standards of the University of Alberta. Use of interview panel ratings of English proficiency as adjuncts to TOEFL deserves further examination.

34. Hale, G. A., Angelis, P. J., & Thibodeau, L. A. (1980). Effects of item disclosure on TOEFL performance (TOEFL Research Rep. No. 8; ETS Research Rep. No. 80-34.) Princeton, NJ: Educational Testing Service.

Purpose

Following several TOEFL administrations each year, the test forms used at those administrations are disclosed, or made public. Items from nondisclosed tests are reused in the Institutional Testing Program, and if reuse of disclosed items for this program were also to be considered, it would be important to know how TOEFL performance would be affected if candidates were to have access to some of the items before a test administration.

To address this issue experimentally, specially constructed TOEFL forms, called "disclosed forms," were made available to foreign students in intensive English language programs. Later the students were administered a special TOEFL consisting of items from those forms and a TOEFL with all new items. Superior performance on the former test would indicate a disclosure effect.

If students must cover a large number of disclosed forms in order to be exposed to all items that will appear on a later TOEFL, they should be less likely to benefit from having the disclosed forms available than if they need only cover a small number of forms. To test this hypothesis, items to appear on the special TOEFL were spread through six disclosed forms for students in some institutions, and through 12 forms for students in other institutions.

It was assumed that, in reality, disclosed TOEFL tests are used in TOEFL preparation courses. Thus, to simulate a test-preparation situation, the students discussed a portion of the disclosed forms in class.

Method

The subjects were foreign students in intensive English language programs at 20 U.S. universities; the final sample consisted of 668 subjects who took all tests.

Two three-part TOEFLs constructed from retired operational items comprised the "posttests" given at the end of the study. The posttests were administered one week apart at most institutions. A TOEFL "pretest" was also given at the outset of the study, to be used as a covariate for statistical control. Tests were administered by the participating institutions according to ETS guidelines for Institutional administrations.

The "disclosed forms" made available during the study were also constructed from retired operational items and were similar to operational TOEFLs except that each correct answer was starred. Interspersed through the disclosed forms were items that would appear on one of the posttests, termed the "disclosed posttest"; the "undisclosed posttest," in contrast, contained all new items.

The disclosed forms were distributed to students in 16 institutions, and the subjects were told of the upcoming special TOEFL, in which they would encounter items from the disclosed forms. The subjects were informed that their test scores would have no bearing on their academic standing or their admissions status.

Subjects in eight institutions were given six forms, and in eight other institutions, 12 forms. The forms were available for a median of 29 days. Within each of these groups, subjects in four institutions received the "disclosed posttest" first, and subjects in four other institutions received the "undisclosed posttest" first. Tapes of the audio portions of the Listening Comprehension sections of these forms could be obtained from a central facility for listening to at that facility or at home.

Subjects in four additional control institutions were given only the pretest and two posttests, to check on the relative difficulty of these tests. [The data showed only a small difference between posttests, and the counterbalancing in order of tests was expected to correct for this difference; results for these four control institutions are not presented here.]

The items from the disclosed forms that were discussed in class comprised the equivalent of one full TOEFL, although not all items were taken from the same form, and approximately five hours was devoted to the class discussion.

Results and Conclusions

A significant disclosure effect was observed, as scores were 4.6 percentage points higher on the disclosed posttest (55.9 percent correct) than on the undisclosed posttest (51.3 percent). (Scaled scores cannot be provided for these specially constructed tests.) Analysis of covariance, with the pretest as a covariate, showed that this effect could not be attributed to group differences in English proficiency. It appears, then, that when TOEFL items were made available for a few weeks before the administration of a test containing those items, the subjects tended to study and recall many of those specific items.

For items discussed in class, the disclosure effect, examined only for the condition involving six disclosed forms, was a full 11.8 percentage points. Yet an effect was shown for items not discussed in class as

well--4.4 percentage points for students given six disclosed forms, and 2.0 points for those given 12 forms; all of these effects were significant. To some extent, then, the students studied the disclosed forms on their own initiative. This conclusion is reinforced by data from a questionnaire, in which the subjects reported averaging between three and four hours of listening to the tapes and between five and six hours of reading the disclosed forms. Thus, it appears that students are motivated to study disclosed items that will be encountered on a later TOEFL, even a nonoperational test.

The disclosure effect was greater when the items to appear on the posttest were spread through six disclosed forms (6.3 percentage points) rather than 12 forms (2.9 percentage points). The data thus support the hypothesis stated above: If students must cover a relatively large number of disclosed forms in order to be exposed to all items that will appear on a later test, they are less likely to benefit from the opportunity to study disclosed forms than if they need cover a smaller number of forms. This result has important implications regarding possible reuse of disclosed items in Institutional TOEFLs. As the pool of disclosed TOEFL forms increases over time, there should be a decrease in the proportion of items in the pool that students can study and remember and, thus, a decrease in the effect due to disclosure.

35. Harvey, M. J. (1979). Academic achievement as predicted by the Test of English as a Foreign Language. Unpublished master's thesis, Portland State University, Portland, OR.

Purpose

This study evaluated TOEFL as a predictor of foreign students' academic achievement during their first two terms at Portland State University, with attention given to the influence of graduate versus undergraduate status and college of enrollment within the university. The initial sections of the thesis review measurement and other problems in devising prediction schemes for foreign students' achievement on the basis of language proficiency information and academic aptitude information. Various studies involving the relation of TOEFL to other proficiency tests and to college grades are reviewed.

Method

The subjects were 78 foreign students at Portland State University who met the criteria specified below. Scores on the three-part TOEFL [presumably earned in International or Special Center administrations] and grades were obtained from administrative offices at Portland State University. From the total population available, students were eliminated on the following bases, to yield the final sample of 78 subjects: (a) a time span of more than six months between test date and enrollment; (b) TOEFL score based on the earlier five-part examination; (c) TOEFL score below 500 [note, however, that analyses reported below involve subjects with TOEFL scores below 500]; (d) concurrent enrollment in an intensive English course during the first two terms at Portland State University; (e) enrollment in less than eight hours of academic work at the beginning of the first or second term of study; and (f) transfer of previous coursework from another American school to Portland State University.

Results

TOEFL total scores correlated .18 with grade point-average (GPA) for these foreign students ($p < .05$). Correlations of GPA with the Listening Comprehension section and with the Reading Comprehension and Vocabulary section of TOEFL were both .15; the correlation of GPA with the Structure and Written Expression section was .03. Graduate students who scored below 500 on TOEFL or between 500 and 550 earned higher average grades than did undergraduates in the same TOEFL score ranges. Undergraduates earned a higher mean GPA than did graduates in the TOEFL score range 550 and above.

Examination of relationships between TOEFL scores and grades within college of enrollment was based on tabulation of average grades in the three TOEFL score ranges: below 500, 500-550, and above 550. The colleges investigated were arts and letters, science, social science, health and physical education, and business administration. Interpretation of the resulting data was inconclusive, with trends going in opposite directions for the lowest two TOEFL score levels. GPA was higher for students with TOEFL scores above 550 than for students with TOEFL scores in the 500-550 range. This relationship was evidenced for four of the five colleges. In contrast to this pattern, students in business administration earned lower grades if they scored above 550 on TOEFL.

Conclusions

The present data demonstrated that TOEFL scores were of limited value in predicting GPA. [Mention is made of a lack of consistent correlation between TOEFL total and TOEFL part scores according to college of enrollment; however, the relevant correlation coefficients are not presented in the thesis.] A redesign of TOEFL might be considered, with the various TOEFL test sections bearing a more natural relation to everyday academic tasks than is currently the case. A measure of writing is needed and, in general, the importance of productive skills in assessing English proficiency must be considered. It is suggested, however, that revision of TOEFL might not necessarily lead to its improvement as a predictor of college grades, since the importance of English language proficiency to academic achievement may have been exaggerated in the literature.

36. Hassan, K. I. (1982). The correlation between performance on the WAIS-R Vocabulary subtest and the TOEFL. Unpublished master's thesis, Washington University, St. Louis, MO.

Purpose

This study compared interrelationships in performance on the five-part TOEFL, the Vocabulary subtest of the Wechsler Adult Intelligence Scale-Revised (WAIS-R), and college grade-point average (GPA) among 30 male Arabic students at Washington University in Missouri. Three hypotheses are set forth: (a) There is a significant relationship between TOEFL score and the score on the Vocabulary subtest of the WAIS-R; (b) There is a significant correlation between TOEFL score and semester grade-point average (GPA); and (c) There is a significant correlation between the score on the Vocabulary subtest of the WAIS-R and semester grade-point average (GPA).

Method

The 30 subjects under study were enrolled as full-time undergraduate students at Washington University; all were male and had Arabic as the native language. Subjects ranged in age from 18 to 29 years with a median age of 21.5 years. Student records indicated that they had studied English for a period ranging from three to six years. The tests used in the study were the five-part TOEFL and the Vocabulary subtest of the WAIS-R. In the WAIS-R Vocabulary subtest there are 35 words to be defined, arranged in order of increasing difficulty. For each word the subject is to state what the word means. This test was administered to the subjects in the spring semester of 1982. TOEFL scores and semester GPA were compiled for the subjects; the subjects had taken TOEFL prior to the study [presumably in International or Special Center administrations]. Pearson product-moment correlations were computed for pairs of measures. Multiple regression analysis was used to predict semester GPA from TOEFL scores and from WAIS-R Vocabulary scores.

Results and Conclusions

The means and SDs for the three measures were WAIS-R Vocabulary (6.66, 1.68); TOEFL (459.10, 58.08); and GPA (2.45, .35). The WAIS-R Vocabulary score correlated .25 with TOEFL total score; this relationship was not statistically significant. The TOEFL score correlated .45 with semester GPA; this relationship was significant at the .01 level. The WAIS-R Vocabulary subtest score correlated .27 with semester GPA; this relationship was not statistically significant.

The regression analyses yielded the following prediction equations: GPA = .056 (Vocabulary) + 2.08, with standard error of estimate = .34; and GPA = .0027 (TOEFL) + 1.211, with standard error of estimate = .80. [No regression analysis is reported including both TOEFL score and Vocabulary score as predictors of GPA.]

The findings are based on a small sample of students, and caution is urged in attempting to generalize the findings to other universities. Further research involving non-Arabic speaking foreign students is suggested.

37. Heil, D. K., & Aleamoni, L. M. (1974). Assessment of the proficiency in the use and understanding of English by foreign students as measured by the Test of English as a Foreign Language (Report No. RR-350). Urbana, IL: University of Illinois. (ERIC Document Reproduction Service No. ED 093 948).

Purpose

This study investigated the prediction of foreign graduate students' academic achievement using scores on tests of English language proficiency. The specific objectives of the study were:

(a) to determine the predictive validity of TOEFL, with first- or second-semester graduate grade-point average (GPA) serving as the criterion;

(b) to examine the predictive validity of the English Placement Examination (EPE) developed at the University of Illinois at Urbana-Champaign (UIUC), using first- and second-semester graduate GPA as the criterion;

(c) to examine the concurrent validity of TOEFL and the EPE;

(d) to determine the predictive validity of TOEFL and the EPE, using grade in a remedial English course as the criterion; and

(e) to estimate the degree of change in total TOEFL score resulting from living in an English-speaking country and taking a remedial English course for one semester.

Method

The subjects were 148 incoming graduate foreign students accepted for admission to UIUC in the fall of 1970. Scores on the five-part TOEFL, [presumably administered in the Institutional Testing Program] were obtained from admissions office records. A second set of TOEFL scores was also obtained, based on an administration of TOEFL upon the subjects' arrival at the university in September 1970. Students scoring in the range of 480-569 on the preadmission TOEFL were required to take the EPE test administered by the Division of English as a Second Language (ESL). The EPE consists of four parts. The Structure section tests recognition of English grammar and sentence structure in writing. The Aural Comprehension section tests understanding of spoken English at normal speed. The Original Composition section tests ability to write on an assigned but familiar topic for which an outline has been provided. The Pronunciation section tests ability to understand and be understood orally.

The results of these examinations were used to place students in one of five levels of ESL courses. Those scoring above 569 on TOEFL were placed in one of the two highest-level ESL courses. Students scoring below 480 usually were not admitted to the university. The numbers of subjects entering into different analyses in the study varied; 89 of the original 148 subjects were enrolled and completed coursework in the ESL classes.

Results

Total GPA in either the first or second semester of study was found to correlate significantly with TOEFL scores obtained before and upon arrival at the university; correlations for part and total TOEFL scores ranged from .16 to .39. Higher correlations with TOEFL scores were observed for second-semester GPA than for first-semester GPA. TOEFL scores obtained prior to admission correlated slightly higher with GPA than did TOEFL scores obtained at the time of admission.

Correlations between (a) EPE part and total scores and (b) first- and second-semester GPA were much lower than the corresponding correlations between TOEFL and GPA; the former correlations ranged in value from -.04 to .12.

TOEFL score (based on postadmission testing) was not significantly correlated with the subjects' grades in their ESL classes, and EPE scores also generally failed to correlate significantly with ESL grades. Of grades received in the three most heavily attended ESL classes, the grade in the lowest class was significantly correlated with GPA earned in the second but not the first semester; the reverse was true for the next higher level. For the third most heavily attended ESL class (the second highest level in the sequence), ESL grade was significantly associated with both first- and second-semester GPA.

Results of a regression analysis indicated that the grade in each of the two lowest ESL classes was significantly predicted by combined EPE and TOEFL scores. In the case of one of these classes, the second-level ESL class, EPE score significantly improved prediction of ESL grade when added to TOEFL as a predictor variable in regression analysis.

Conclusions

The predictive validity of TOEFL for foreign students appears to be similar to the predictive validity of admissions test scores for native Americans. This result suggests that academic success may be no more predictable for foreign students than for native Americans. Correlations between TOEFL part scores and GPA might be improved if part scores more adequately reflected skills required in college work.

38. Hillman, R. E. (1973). A correlational study of selected vocal-verbal behaviors and the Test of English as a Second [sic] Language (TOEFL) (Doctoral dissertation, Pennsylvania State University, 1972). Dissertation Abstracts International, 34, 1397A. (University Microfilms No. 73-20, 090)

Purpose

This study attempted to validate TOEFL as a measure of the ability to encode oral English by using vocal-verbal behaviors as criterion measures. It also attempted to test the hypothesis that nonnative English speakers exhibit more proficiency when speaking about experiences in their home countries than when speaking about experiences in the United States.

Method

The subjects for the study were 124 undergraduate and graduate students enrolled at the University of Wisconsin during the fall semester of 1971. Due to attrition and technical difficulties, data are presented for only 47 students. A 1968 form of the five-section TOEFL was administered as part of the study. Also, the five vocal-verbal behaviors described below were elicited during a structured oral interview. The interview included questions about life in the student's home country and life in the United States. Each interview was recorded on audio tape and transcribed. The subject's first 100 words regarding life in the home country and first 100 words regarding life in the United States were scored separately for each behavior.

The five behaviors chosen were (a) amount of silent pause time (including any pause greater than .25 seconds as determined by a recorder, which transmitted speech onto continuous graph paper); (b) number of verbalized pauses, such as "uh" and "well," as counted by five judges; (c) type/token ratio (the number of different words divided by the total number of words); (d) average number of words five judges were unable to identify; and (e) average overall English language proficiency (ELP) rating as assigned by 10 judges on a seven-point bipolar scale, with "native" and "nonnative" serving as the poles.

In addition, two indirect measures of English proficiency were administered to the subjects. These were the Indirect Measure of Oral Output (IMOP) and the Holtzman Stress-unstress test. The IMOP is a 20-minute listening test in which the examinee classifies speakers as either native or nonnative. The Holtzman Stress-unstress test requires examinees to read aloud a list of 31 words; each response is scored for correct placement of stress.

Intercorrelations were computed among TOEFL scores, the five vocal-verbal criteria corresponding to the home country and U.S. portions of

the oral interview, and the two additional measures. In addition, an analysis of variance was performed to determine if the scores from the home country and U.S. sections of the interview could be merged. Inter-rater reliabilities were determined where appropriate.

Results

The mean TOEFL score for the group was 475, which is slightly below the average of all examinees taking TOEFL in International and Special Center administrations. The standard deviation, 83, was five points greater than average. As noted above, the three variables that employed more than one judge were verbalized pauses, unidentified words, and overall English language proficiency. Reliabilities of the ratings for verbalized pauses (.87) and for English language proficiency (.90) were regarded as acceptable, as both were greater than .80. However, the reliability of unidentified word counts (.29) was not acceptable.

The analysis of variance showed that the means of scores on the five vocal-verbal criteria for the home-country context did not differ significantly from the means for the U.S. context. However, analysis of the intercorrelations between the five vocal-verbal behaviors and two indirect measures showed that some significant relationships did exist between home country and U.S. speech behavior. Verbalized pauses, unidentified words, and English language proficiency each yielded correlations above .60 between the two speech contexts. Verbalized pause counts and unidentified words yielded the highest correlations with English language ratings.

The correlations between TOEFL total score and the five direct and two indirect criterion measures are presented in Table 1. It was hypothesized that the TOEFL score would show a negative correlation between number of silent pauses, verbalized pauses, and unidentified words. Similarly, it was hypothesized that TOEFL score would correlate positively with ELP ratings and type/token ratio. It was also hypothesized that TOEFL score would show a positive correlation with the two additional measures.

Table 1

Correlations between TOEFL and Seven Language Measures

Variable	Home Country Context	U.S. Context
Silent pause	.07	-.23
Verbalized pause	-.51*	-.29
Type/Token ratio		-.42*
Unidentified words		-.13
ELP ratings		.36
IMOP	.52*	
Stress-unstress test	.35	

*Significant at the .01 level.

As indicated in the table, few correlations significant at the .01 level were obtained with this sample. TOEFL correlated significantly with (a) verbalized pauses in the home-country context, (b) type/token ratio in the U.S. context, (c) English language proficiency in the home-country context, and (d) the IMOP test of ability to recognize the pronunciation of a native speaker. Thus, only four of the 12 comparisons yielded statistically significant correlations. For each of the five direct measures, the difference between correlations in the home-country context and the U.S. context was examined statistically; the difference was significant for three of the direct measures. However, the general direction of the differences favored a stronger relationship between TOEFL scores and the ability to use English when speaking about home-country experiences.

Conclusions

Foreign students with high TOEFL scores may exhibit fewer verbalized pauses and greater English language proficiency when talking about what they have experienced in their home countries than when talking about what they have experienced in the United States. Thus, the ability of TOEFL to predict vocal-verbal behaviors may depend on the context of those behaviors.

It is possible that the generally superior relationship between TOEFL scores and ability to encode in the home-country context is due to greater familiarity with the home-country context. The learners, being familiar with what is an appropriate response to questions in that context, may be

able to utilize their language proficiency to monitor their output. Lack of familiarity with the nature of expected responses in the U.S. context may result in the monitor either not being invoked or being underused. Thus, a reduced correlation between verbal output and TOEFL score would be expected. While the data do not provide strong support for a relationship between TOEFL score and real language use, the precise relationship may be impossible to establish until research yields more information on the vocal-verbal behavior of nonnative speakers of English. The absence of a correlation between pause-time and ELP ratings suggests that appropriate pause-time parameters for nonnative speakers need further investigation. The same may be true of other variables included in this study.

39. Hinofotis, F. B. (1980). Cloze as an alternative method of ESL placement and proficiency testing. In J. W. Oller, Jr., & K. Perkins (Eds.), Research in language testing. Rowley, MA: Newbury House.

Purpose

This article, based on the author's dissertation, addressed two basic questions relating to cloze testing: (a) Can a cloze test serve as a surrogate measure of English language skills without significant loss of information and (b) Should cloze tests be scored by accepting only the exact word deleted, or should other grammatical and contextually suitable substitutes be accepted as well?

Method

Incoming foreign students representing a variety of native language backgrounds served as subjects. All were enrolled at the Center for English as a Second Language (CESL) at Southern Illinois University. A total of 107 subjects took both a cloze test and the CESL Placement Test at the beginning of two consecutive six-week terms during the summer of 1976. (The CESL Placement Test is a three-part test yielding a total score and subscores for listening comprehension, structure, and reading. Scores are grouped within six proficiency levels.) In addition, 52 of the subjects, who scored at level three (of six) or above on the CESL Placement Test, also took the five-part TOEFL at the university testing service.

The cloze test employed a 427-word passage, adapted from an intermediate level text in English as a second language, that described different means of transportation used for long distance travel. Every seventh word was deleted from the passage to yield a total of 50 blanks. The subjects were given 30 minutes to complete the cloze passage. First, scores were obtained by accepting as correct only the exact word that had been deleted (cloze-exact method). Then, the papers were rescored by counting as correct responses that were grammatically and contextually acceptable (cloze-acceptable method). Correlations were then obtained between section and total scores on the two tests of English language proficiency and scores on the cloze test as computed by the two methods.

Results

As shown in Table 1, total scores on the CESL Placement Test and TOEFL were highly correlated with scores on the cloze test obtained under both scoring methods. Also, reading scores on both tests correlated more

highly with the cloze test than did scores on any other subtest. (The correlations were all significant beyond the .005 probability level.) However, the correlations may have been attenuated due to the lack of reliability of the cloze passage (.61 for cloze-exact score and .85 for cloze-acceptable score), which was found to be very hard for this group of students.

Cloze-exact and cloze-acceptable scores did not show significantly different correlations with the CESL Placement Test (.80 and .84) but did show significantly different correlations with TOEFL (.71 and .79). Still, the correlation between these two scores was .97.

Table 1

Correlations of Cloze Test Scores with Total and Subtest Scores on the Criterion Measures

	Cloze-exact Score	Cloze-acceptable Score	N
Total CESL Placement Test	.80	.84	107
CESL Listening Comprehension	.71	.73	107
CESL Structure	.63	.69	107
CESL Reading	.80	.80	107
Total TOEFL	71	.79	52
TOEFL Listening Comprehension	.47	.51	52
TOEFL English Structure	.51	.58	52
TOEFL Vocabulary	.59	.62	52
TOEFL Reading Comprehension	.68	.77	52
TOEFL Writing Ability	.55	.64	52

Conclusions

The high correlations obtained in this study warrant the cautious use of the cloze test as a measure of English language proficiency. Although the two scoring methods apparently cause subjects to rank order in the same manner, the cloze-acceptable method shows much greater variance and greater reliability. The cloze-exact method is less time consuming, but the cloze-acceptable method is more reliable and therefore preferable.

40. Homburg, T. J. (1979). TOEFL and GPA: An analysis of correlations. In R. Silverstein (Ed.), Proceedings of the Third International Conference on Frontiers in Language Proficiency and Dominance Testing. Occasional Papers on Linguistics, No. 6. Carbondale, IL: Southern Illinois University.

Purpose

This paper discusses advice rendered the advisory board of the Office of International Education at Southern Illinois University (SIU) on use of TOEFL. In 1979, SIU required a minimum TOEFL score of 550 for foreign applicants to graduate programs and a minimum TOEFL score of 525 for foreign applicants to undergraduate programs. At SIU there were contrasting views regarding use of cutoff scores in admissions. Some expressed concern that the cutoff scores used for admission, particularly graduate admission, were set too high for students with good credentials. Others expressed concern that minimal TOEFL score requirements were not adequate indicators of linguistic ability to perform in certain programs of graduate study. In considering possible changes in the use of TOEFL scores in graduate admissions, three questions were addressed: (1) How are TOEFL scores used? (2) What are some of the problems with this process? (3) What should be done to improve the current system?

Discussion

The 1978 TOEFL manual[1] recommends that use of TOEFL in admissions should not include the prediction of scores on academic achievement indices, such as grade-point average (GPA). TOEFL is a test of proficiency in English as a second language and not an achievement test. There is no systematic or intentional connection between TOEFL test demands and academic materials that foreign students may have mastered earlier.

The TOEFL manual also warns against using cutoff scores on TOEFL. This recommendation is supported by two factors. First, TOEFL scores are legitimate indicators of the relative standing of examinees with regard to English language skills; these scores are not intended to convey information about candidates' English language skills in particular situations at particular institutions. Second, because there is some degree of error in measurement, use of cutoff scores in admissions can lead to mistakes in application of a TOEFL cutoff score in admissions decisions.

The inappropriateness of TOEFL score as a predictor of achievement is demonstrated in a study at SIU that investigated the correlation between TOEFL score and GPA in each of two groups of foreign graduate students (Ns = 134 and 54). [The source of TOEFL scores, and whether they were derived from the three-part or five-part TOEFL, are not indicated.]

[1] Educational Testing Service (1978). TOEFL test and score manual. Princeton, NJ: Author.

The first group had completed their program of studies while the second group had not. The correlations between TOEFL scores and GPAs for the two groups were -.07 and .22, respectively. For both groups combined, the correlation between TOEFL score and GPA was .11. Results of a regression analysis indicated that there was not a significant difference in GPA for the two groups; both groups demonstrated high mean GPAs, of 3.58 and 3.39, respectively. It is concluded that numerous factors could affect achievement that might not be reflected in admissions test scores.

Guidelines for using TOEFL scores cited in the TOEFL manual are discussed. [These are essentially the guidelines that are listed in the summary of the 1981 manual (Summary No. 28, Educational Testing Service, 1981) summarized elsewhere in this collection.]

41. Hosley, D (1978). Performance differences of foreign students on the TOEFL. TESOL Quarterly, 12, 99-100.

Purpose

Among foreign students in an intensive English language program, differences in TOEFL scores as a function of such variables as country of origin and sex were examined.

Method

The subjects were 147 foreign students in the Center for English as a Second Language (CESL) at the University of Arizona. The subjects in the sample comprised 28 percent of the total number of students in the CESL program and were drawn from 19 different countries. For data analysis, the subjects were placed into six groups: Mexico, Saudi Arabia, Libya, Venezuela, and Japan (the five most common countries of origin), and others. Scores on the five-part TOEFL were available [presumably obtained through International test administrations.]

Results and Conclusions

Analysis of variance of the TOEFL scores showed the effect of country to be significant, with scores of Mexican subjects being the highest and significantly different (via post-hoc tests) from those of Saudi Arabian and Libyan subjects, which were the lowest.

Differences among the TOEFL subtests were also significant, with the mean score on the Writing Ability subtest higher than scores on the other subtests. The interaction between subtests and country of origin was also significant, with a post-hoc test showing that the Listening Comprehension and Vocabulary sections contributed most to the superior performance of the Mexican subjects.

A comparison between 58 students who had been in the CESL program and 89 new students showed that TOEFL scores were significantly higher for the new students. The difference between males and females was not significant. These data should help to identify variables that can affect TOEFL performance and provide hypotheses for further study.

42. Hosley, D., & Meredith, K. (1979). Inter- and intra-test correlates of the TOEFL. TESOL Quarterly, 13, 209-217.

Purpose

The constructs measured by TOEFL and the nature of language proficiency were examined using data obtained from students enrolled in an intensive English program.

Method

One hundred sixty-nine students enrolled at the Center for English as a Second Language at the University of Arizona had scores on the five-section TOEFL [presumably administered via International or Special Center programs] and the Comprehensive English Language Test for Speakers of English as a Second Language (CELT). The CELT consists of three sections: Listening, Vocabulary, and Structure. The Listening section contains three parts. In the first part, the examinee hears a short question and then selects, from four alternatives, the correct answer to the question. In the second part, the examinee hears a statement and chooses, from four printed statements, the one closest in meaning to the one heard. In the third part, the examinee hears a short dialogue between two speakers and a question posed by a third speaker and must select, from four printed alternatives, the correct answer to the question. The Vocabulary section contains two parts. For each item in the first part, the examinee sees a sentence with a deleted word and must select, from four alternatives, the deleted word. For each item in the second part, the examinee reads a short phrase and then selects, from four alternatives, the word described by the phrase. For each item in the Structure section, the examinee reads a short conversation between two persons, with a word or phrase deleted from the last sentence; the examinee must select, from four alternatives, the deleted word or phrase. [description paraphrased from a recent CELT manual]

Correlations between the five TOEFL sections were determined and a factor analysis was performed. The subjects were also divided into three proficiency groups on the basis of CELT scores and teacher recommendations. The correlation between TOEFL score and group placement was then determined, as were the correlations between subtest scores on both tests and between TOEFL scores and grades in courses in English as a second language.

Results

Mean TOEFL scores were about two-thirds of a standard deviation below published norms (cf., Educational Testing Service, 1973). The highest

correlations between TOEFL sections were found between Reading Comprehension and Vocabulary (.73) and between English Structure and Writing Ability (.67). Factor analysis indicated that all TOEFL section scores loaded on a single factor. Scores from the Reading Comprehension and Writing Ability subtests loaded more heavily on this factor than did scores from the other three subtests. Intercorrelations and factor loadings are indicated in Table 1.

Table 1

TOEFL Subtest Intercorrelations and Factor Loadings

TOEFL Subtest	TOEFL Subtest					Loadings on Main Factor
	LC	ES	V	RC	WA	
Listening Comprehension (LC)						.75
English Structure (ES)	.57					.73
Vocabulary (V)	.50	.45				.70
Reading Comprehension (RC)	.66	.60	.73			.89
Writing Ability (WA)	.62	.67	.52	.67		.80
Total TOEFL	82	.78	.80	.89	.83	

Correlations between CELT and TOEFL subtests ranged from .36 to .79. The correlation between total scores on the two tests was .64. The intercorrelations between CELT and TOEFL subtests are depicted in Table 2.

Table 2

Intercorrelations between CELT and TOEFL Subtests

CELT Subtest	TOEFL Subtest				
	LC	ES	V	RC	WA
Structure	.79	.58	.36	.51	.63
Listening Comprehension	.53	.52	.72	.74	.65
Vocabulary	.59	.77	.41	.63	.71
Total	.52	.52	.39	.43	.50

The pairs of subtests that correlated the highest were not those with the same labels (e.g.,vocabulary, listening comprehension, and structure).

Correlations between TOEFL scores and class grades were low and generally nonsignificant. However, there was a high correlation (.63) between TOEFL score and group placement.

Conclusions

A single factor accounts for most of the variance on the TOEFL subtests. The existence of this factor is also supported by the interrelated nature of the TOEFL subtests and the moderate to strong correlations with CELT subtests. Grades in an intensive English program apparently are not predicted by TOEFL score.

43. Hwang, K. Y., & Dizney, H. F. (1970). Predictive validity of the Test of English as a Foreign Language for Chinese graduate students at an American university. Educational and Psychological Measurement, 30, 475-477.

Purpose

This paper, based on the first author's doctoral dissertation, was concerned with the validity of TOEFL as a predictor of grades in a course in English as a second language (ESL) and as a predictor of first term grade-point average (GPA) in graduate courses for Chinese students at the University of Oregon.

Method

Sixty-three subjects (32 male and 31 female) were chosen for study from the 120 Chinese graduate students who enrolled at the University of Oregon between fall 1966 and fall 1968. All of the subjects had taken the five-part TOEFL prior to admission to the university [presumably via the International Testing Program]. The subjects had received from seven to 13 years of instruction in English before arriving in the United States. The age of the subjects ranged from 22 to 36 years, with a median of 29 years. The subjects majored in education (ED), social and professional services (SPS), natural sciences (NS), social sciences (SS), and architecture (ARCH). Twenty of the 63 subjects enrolled in an ESL course during their first term of graduate study.

Results and Conclusions

Table 1 reports means and standard deviations of TOEFL scores and GPAs for subjects in various subgroups.

Table 1

Descriptive Statistics for TOEFL and GPA

Sex or Major Area of Study	N	TOEFL MEAN	TOEFL SD	GPA MEAN	GPA SD
Male	32	504	32.7	3.13	.45
Female	31	505	42.5	2.97	.51
ED	21	479	22.3	2.93	.48
SPS	16	527	38.5	2.88	.47
NS	11	522	37.5	3.26	.29
SS	9	513	21.1	2.89	.49
ARCH	6	489	25.4	2.98	.52
Entire Group	63	505	38.8	3.03	.37

Total TOEFL score correlated .66 with ESL course grade for the 20 subjects who had taken the ESL course in the first year of graduate work. This correlation was significant at the .05 level. Correlations between TOEFL score and first-term GPA in various study areas are shown in Table 2; none of these correlations attained statistical significance.

Table 2

Correlations between TOEFL Score and GPA

Sex or Major Area of Study	N	Correlation of TOEFL with GPA
Male	32	.17
Female	31	.18
ED	21	.21
SPS	16	.05
NS	11	.22
SS	9	-.32
ARCH	6	.69
Entire Group	63	.19

The results of the study indicated that TOEFL was a relatively good predictor of ESL course grades for Chinese graduate students at the University of Oregon but not a very good predictor of graduate course grades. Further studies involving Chinese students in other universities and colleges are needed, as well as studies focusing on other groups of foreign students.

44. Irvine, P., Atai, P., & Oller, J. W., Jr. (1974). Cloze, dictation and the Test of English as a Foreign Language. Language Learning, 24, 245-252.

Purpose

This study investigated the performance of foreign students on a cloze test, a dictation test, and the five-part TOEFL. One objective was to determine whether TOEFL scores would correlate with the other measures in a way consistent with integrative proficiency testing theory. A second objective was to verify that performance on the cloze test and dictation test, both presented in English, would correlate with each other for a group of examinees based in a foreign country.

Method

The subjects were 159 native Farsi speakers located in Tehran, Iran. [No other details are given on the characteristics of the subjects.] The five-part TOEFL was administered by trained staff according to standard procedures. After the test, voluntary participation to take the cloze and dictation tests the next day was requested.

The dictation test employed two separate passages. The easier passage was taken from a college-level text on community health; the more difficult passage came from Scientific American. The passages were read by a native English speaker and required about 20 minutes to read. The total dictation score was the total number of words written by the subject in original sequence for the two passages combined. The cloze test was based on a 394-word passage taken from an English text. Every seventh word in the passage was deleted, except for the first 43 words, which remained intact. Two cloze test scores were derived. The exact cloze score was the total number of verbatim reproductions of the deleted words. The acceptable cloze score was the total number of words that were acceptable substitutes, as judged by a native speaker of English.

Results

The exact cloze score correlated .94 with the acceptable cloze score, and the two cloze scores correlated in a very similar fashion with other measures. The acceptable cloze score correlated .75 with the total dictation score, a correlation that was higher than the correlation of any TOEFL section with any other TOEFL section. The acceptable and exact cloze test scores correlated more highly with the TOEFL Listening Comprehension subscore than with any other TOEFL subscore.

Correlations were computed between each individual TOEFL section and the combination of all remaining sections; the cloze and dictation test were also correlated with these combined scores. With one exception, cloze test scores proved to be better predictors of the combination of TOEFL section scores, excluding a given section, than did the score on the excluded section or the dictation test score. Correlations of cloze scores with the various combinations of four (or all five) TOEFL sections ranged from .74 to .81.

Conclusions

The pattern of correlations obtained is judged to support the previous claim that dictation and cloze tests represent integrative language proficiency skills. For example, there was a moderately high correlation of .69 between the dictation score and the TOEFL Listening Comprehension score. This finding bolsters the contention that separate tests, emphasizing different language tasks, measure the same underlying range of integrated language skills.

It is concluded that the TOEFL total score provides little interpretable information beyond that provided by the cloze test, the dictation test, and the TOEFL Listening Comprehension subtest. It is also concluded that the patterns of intercorrelations among scores do not support the notion that the separate TOEFL subscores measure highly differentiated language skills.

45. Jameson, S. C., & Malcolm, D. J. (1973). TOEFL--The developing years. International Educational and Cultural Exchange, 8, 57-62.

Purpose

This descriptive paper provides an account of the events in the early history of TOEFL. [See also Palmer, 1965; Oller & Spolsky, 1979. Note that this summary, as well as summaries of other papers, directly reflects statements made by the authors. Thus, the summary is written in the present tense and refers to groups and organizations by their titles at the time of writing, even though some of those organizations have since changed their names.]

Discussion

At a 1961 conference on testing, the need was expressed for a systematic method of assessing the English proficiency of foreign applicants to U.S. colleges and universities. As a result, the National Council on the Testing of English as a Foreign Language was established, including representatives of approximately 30 organizations. With support from the Ford and Danforth Foundations, the Council began the groundwork toward development of the Test of English as a Foreign Language, and actual test development was well underway by the summer of 1963. The test, which consisted of five parts, was first administered in February 1964 to 920 examinees in 34 countries.

The council soon recognized that a well-established organization would be needed to sponsor the TOEFL program. In July 1965, the College Entrance Examination Board (CEEB) and Educational Testing Service (ETS) assumed cooperative responsibility for the program. CEEB assumed responsibility for promoting use of the program by colleges and universities and to ensure that the program would be responsive to the needs of those institutions and of the examinees. ETS assumed responsibility for operation of the program, including preparation of test forms, examinee registration, establishment of test centers, test scoring and score reporting, statistical analysis, research, and other functions.

The TOEFL program's growth is seen in marked increases from the year 1964-65 to the year 1971-72 in number of examinees tested (from approximately 2,400 to 64,000), average number of test centers per administration (from 80 to 400), and other statistics.

The large majority of colleges and universities in the United States now require, or strongly recommend, that foreign applicants take TOEFL. Also, the test is used by many government agencies, businesses, and foundations, and it is required by many organizations as a basis for

licensure or accreditation of professionals educated outside the United States. TOEFL's advantages include the security of the test, the value of the test scores for admission and placement, and the fact that the test is offered in so many locations abroad.

In 1966, CEEB and ETS appointed a six-member Examiner Committee, comprised of specialists in linguistics, psycholinguistics, and the teaching of English as a foreign language. The Examiner Committee reviews new test forms, provides advice regarding research, and brings to bear knowledge of new developments in the field. The National Advisory Council on TOEFL, which evolved from the original TOEFL Council, serves to advise CEEB and ETS on matters of general policy regarding the test. The Council consists of representatives of undergraduate institutions, graduate and professional schools, teachers of English as a foreign language, admissions officers, and various agencies.

Several procedural changes have been made over the years. Scores are now given directly to examinees as well as to institutions; the administration of test centers and of the registration process have been decentralized in many places; four International administrations rather than three are now offered each year; and a totally new test form is used at each International administration. Also, an Institutional Testing Program has been established, through which TOEFL forms are provided to institutions for administration to their own students. Further, walk-in test centers were established, whereby students could take TOEFL at times other than the International administration test dates.

The program has benefited from cooperation between government agencies and institutions of higher education. From the outset, support has come from the Bureau of Educational and Cultural Affairs of the Department of State, and the Agency for International Development. Encouragement has also come from the Institute of International Education, the American Friends of the Middle East, and the Latin American Scholarship Program of the American University. The widespread use of TOEFL has also been due, in part, to strong recommendations by the American Association of Collegiate Registrars and Admissions Officers and the National Association for Foreign Student Affairs that U.S. institutions require foreign applicants to take TOEFL.

With the growth of the TOEFL program, various publications relating to the test have been prepared, including interpretive materials for TOEFL users as well as a guide for students. A technical manual is planned that will summarize research on TOEFL and present detailed information about its psychometric characteristics.

As TOEFL continues to be used, it is important that scores be properly interpreted by those who use them. TOEFL should not be regarded as an aptitude test or as a predictor of academic success, and cutoff scores should not be used. Research should be conducted by institutions that use the test so they can establish norms by which to make proper decisions at the local level.

46. Johnson, D. C. (1977). The TOEFL and domestic students: Conclusively inappropriate. TESOL Quarterly, 11, 79-86.

Purpose

This study examined the performance of native English speakers on TOEFL, partly to determine the appropriateness of cutoff scores on the test used by the University of Tennessee for admission of foreign students.

Method

The subjects were 173 American freshmen and sophomores enrolled in a psychology course at the University of Tennessee. Of the 173 subjects, 152 were from Tennessee, 96 from urban areas, and 56 from rural areas (towns with populations of less than 30,000). Scores on the American College Test (ACT) indicated that this sample was representative of the student body at the university. [The ACT is described briefly in Summary No. 5, Andalib, 1976.]

Participation in the study was voluntary and resulted in research-participation credit and an opportunity to win prize money. The five-part TOEFL was administered to the subjects as part of the study.

Results and Conclusions

Mean scores on the five parts of the test were Listening Comprehension, 69.9 (of a possible 73); English Structure, 64.3 (of 66); Vocabulary, 65.2 (of 69); Reading Comprehension, 56.6 (of 66); and Writing Ability, 58.0 (of 65), for a total score of 628. Thus, consistent with a similar study conducted at a western state university (Angoff & Sharon, 1971), the scores were relatively high, and the lowest subscores obtained were those for Reading Comprehension and Writing Ability, with the levels of performance on the other subtests also generally similar to those of the earlier study. The relatively high scores of this native-English-speaking sample suggests that the minimal TOEFL score of 475 established for admission to the University of Tennessee is not unreasonably stringent.

Subjects from urban and rural areas were compared with respect to their Listening Comprehension scores. The difference between them was slight and nonsignificant, indicating that speaking of regional dialects has little relationship to ability to perform this listening task, perhaps because of the subjects' exposure to radio and television.

The correlation between total TOEFL score and ACT English score was .67 (compared with .64 in the Angoff & Sharon study). That this correlation was not higher is attributed to the difference in difficulty of the two tests and the fact that they are intended for use with different populations.

Scores for this sample were compared with those available for the 215,486 foreign candidates who took TOEFL worldwide between October 1966 and June 1971. The mean of the present sample, 628, is considerably higher than the mean of 490 for the foreign candidates. Also, the standard deviation of this sample, 35.1, is considerably lower than the 80.0 observed for the foreign candidates.

In general, the results demonstrate that TOEFL is inappropriate for use with domestic students. The relatively high mean score of the present sample and the narrow distribution of scores reflect the fact that the test was not developed to discriminate among native speakers of English.

47. Komvichayungyuen, N. (1978). Test of English as a Foreign Language as a predictor of actual English proficiency (Doctoral dissertation, Florida State University, 1977). Dissertation Abstracts International, 38, 6666A. (University Microfilms No. 7804978)

Purpose

Previous validity studies have usually assessed TOEFL's relation to other tests of English proficiency or have examined TOEFL's ability to predict academic success. This study, in contrast, examined the relation between TOEFL scores and teachers' ratings of students' English proficiency.

Method

The subjects were 57 students who had taken TOEFL and were selected from 108 foreign graduate students enrolled in 15 different programs in the College of Education at Florida State University between 1974 and 1977. The sample consisted of 32 males and 25 females; 40 were Ph.D. students. Their ages ranged from 22 to 46, with a mean of 30.8 years. They were drawn from 22 countries, representing the following regions: Far East Asia (N = 8), Southeast Asia (N = 14), Middle East Asia (N = 15), South America (N = 11), and others (N = 9).

The five-part TOEFL had been administered to the subjects prior to admission to the university [presumably via International or Special Center administrations].

Each subject's English proficiency was rated in four areas: writing, reading and vocabulary, aural comprehension, and speaking. The rating scale had five levels: elementary proficiency, intermediate proficiency, minimal academic proficiency, partial academic proficiency, and full academic proficiency. Each subject was rated by one or more faculty members; only faculty members who knew a subject well provided ratings for that subject. A subject's ratings were averaged across judges and summed over all four areas to yield a total rating of English proficiency.

Results and Conclusions

Reliabilities of the ratings were determined by a special procedure described by Ebel[1] since different subjects were rated by different

[1]Ebel, R. L. (1951). Estimation of the reliability of ratings. Psychometrika, 16, 407-424.

numbers of faculty members. The obtained reliabilities, which were based on three ratings for each subject, were writing, .29; reading and vocabulary, .32; aural comprehension, .39; speaking, .28; and total of the ratings, .71. The reader is referred to overall data reported in Educational Testing Service (1973) for the reliabilities of the TOEFL subtests.

The subjects in this sample averaged 520.75 for total TOEFL score, which is more than one-half of a standard deviation above the mean of all foreign candidates in the field of education. Mean part scores on the TOEFL Listening Comprehension, English Structure, Vocabulary, Reading Comprehension and Writing Ability sections, respectively, were 47.43, 50.80, 55.09, 55.39, and 51.02.

Mean English proficiency ratings for writing, reading and vocabulary, aural comprehension, and speaking, respectively, were 3.98, 4.33, 4.04, and 3.80, for a mean total score of 16.16.

Visual inspection of the data shows that the highest TOEFL scores and ratings were earned by subjects from Southeast Asia; women earned higher TOEFL scores and ratings than did men; and master's students earned higher TOEFL scores but lower ratings than did doctoral students.

High intercorrelations among ratings in the four different areas of proficiency were observed (.84 to .91), probably due to a halo effect in the ratings--that is, the tendency for a rater to be influenced by perception of a subject's skill in one area in judging his or her skill in another.

The correlation between total TOEFL score and total rating was .53, a moderate but highly significant relationship. Correlations between total TOEFL score and rating for each of the four areas of rated proficiency did not differ greatly, ranging from .45 to .55. It appears that TOEFL is a moderately good predictor of English proficiency as determined by the rating procedures used in this study. Separate correlations were computed between TOEFL and proficiency ratings for each sex and planned degree, and no significant differences in correlations were found as a function of these variables. Thus, TOEFL's ability to predict rated English proficiency does not appear to depend on the sex or planned degree of the subject.

Tables are presented indicating the kinds of rated proficiency levels associated with each of several ranges of TOEFL scores. It is concluded that more data need to be gathered for subjects with TOEFL scores below 500 in order to derive a more reliable content-referenced scale.

48. Ku, E. J., & Frisbie, D. A. (1979, April). An examination of the confounding in measures of foreign language listening comprehension. Paper presented at the meeting of the National Council on Measurement in Education, San Francisco.

Purpose

The moderate to high relationship between measures of reading comprehension and listening comprehension on TOEFL and similar tests may be due to the structure of the typical test of listening comprehension, as it requires the subject to read the response alternatives. To address this issue, this study examined the correlation between TOEFL Reading Comprehension and each of two measures of listening comprehension: (a) the TOEFL Listening Comprehension subtest, and (b) a completely oral modification of that subtest.

Method

The subjects were 150 foreign students from Hong Kong and Taiwan, undergraduate and graduate student volunteers at the University of Illinois at Urbana-Champaign. Of these 150 subjects, 30 comprised the sample for a pilot study, and 120 formed the main sample. In the pilot study, all 30 subjects were administered the Reading Comprehension subtest; 15 were also administered the traditional Listening Comprehension subtest and 15 the experimental listening test. In the main study, 120 subjects were administered the traditional Reading Comprehension subtest; 60 were also administered the traditional Listening Comprehension subtest and 60 the experimental listening test (with presentation order counterbalanced to eliminate possible order effects).

The traditional Listening Comprehension and Reading Comprehension subtests of the five-part TOEFL were administered as described in the Introduction to the summaries. Fifty items were used in the Listening Comprehension test. The experimental (oral) listening test used a true-false format and included 64 items (to ensure that testing time would be equal to that for the traditional Listening Comprehension subtest). For example, in one part of the test the subject heard "When did Tom come home?" "By taxi"; the subject was then asked to indicate whether the response heard made sense in relation to the question. The measures used in the pilot study and in the main study were basically the same except that eight of the 64 items in the experimental listening measure were revised in preparation for the main study to improve the test's discrimination power.

Results

In the pilot study, KR-21 reliability of the experimental listening test was found to be lower (.65) than that of the traditional Listening Comprehension subtest (.81). Attenuated correlations between Reading Comprehension and listening scores were .90 for the traditional Listening Comprehension subtest and .47 for the experimental listening test.

In the main study, KR-20 reliability of the experimental listening test was .73 and of the traditional Listening Comprehension subtest, .86. In contrast with results for the pilot sample, the data showed nearly identical correlations between the Reading Comprehension and the traditional Listening Comprehension subtests (.59) and between the Reading Comprehension subtest and the experimental listening test (.57); correlations corrected for attenuation were .78 and .77.

Conclusions

Despite a suggestion to the contrary from the pilot data, the TOEFL Reading Comprehension subtest did not correlate more highly with the traditional Listening Comprehension subtest than with the experimental listening test. The rationale for expecting a higher correlation in the first case than the second still seems logical, however, since the traditional TOEFL Listening Comprehension subtest requires the reading of response alternatives. Perhaps both the reading and traditional listening tests used here were too easy for these subjects (high means and low standard deviations of scores suggests that this may have been the case) and that a more diverse sample might well show the expected difference in correlations. Also, the quality and reliability of the experimental listening measure could be further improved. In general, conclusions should not be drawn until the study can be repeated on a larger scale, with a more diverse group of subjects and a revised experimental listening test.

49. Little, B. G. (1980). Acquisition of determiner functions. Unpublished master's thesis, University of California--Los Angeles.

Purpose

This study examined Japanese students' knowledge of when to use definite, indefinite, and zero articles in English, a particular problem for Japanese students because their language lacks a comparable article system. Questions under investigation were: (a) Are there clear differences in article usage between high and low proficiency students? (b) Do measures of article usage correlate with scores on TOEFL and the Michigan Placement Test? and (c) Are there patterns showing the relative difficulty of different functions served by the different articles? This summary focuses primarily on the relation to TOEFL and the Michigan test; the various functional patterns are treated only briefly.

Method

The subjects for the study were 27 Japanese students, 10 female and 17 male, in the intensive English program at the University of California at Riverside. Two proficiency groups were defined according to scores on the Michigan Placement Test (high group: 64 to 95; low group: 28 to 54). The 27 subjects were those (among 94 total Japanese students in the program) who (a) were present for the duration of the study, (b) were in a writing class, (c) completed both parts of the Article Survey described below, and (d) had Michigan test scores in the ranges indicated above.

Two measures of article usage were used: (a) the Survey of the English Determiner System, or "Article Survey" developed by the author, and (b) article usage in a written composition. The Article Survey was a two-part test. The first part consisted of 50 multiple-choice items. For each item, a sentence containing a blank space was presented and the subject was to indicate which of the following choices correctly filled the space: "a," "an," "the," "no determiner," or "optional." The second part was a modified cloze test, with 35 blanks to be completed using the correct article (or zero article). The text was edited from a story in a fourth-grade science book. In earlier research with 40 nonnative adult ESL students, KR-20 reliability of the Article Survey was found to be .89; the correlation between parts was .75. Although a second study of 30 advanced English students given Part I showed a reliability of only .49, this was probably due to restriction in range. Part I reliability for the two samples combined was .78.

In the present study the composition was written during a regularly scheduled writing class, with 50 minutes allowed for its completion. The

topic for the composition was "A typical American cowboy," and 30 relevant vocabulary words were provided. Article usage was analyzed in the following manner. The presence or absence of the required article was determined for each obligatory context. The number of errors was subtracted from the number of obligatory contexts, and the difference was divided by the number of obligatory contexts to yield the subject's score.

Scores were available on TOEFL [presumably the three-part version, administered via the International or Special Center program]. The Michigan Placement Test was administered to all subjects at the outset of the academic quarter, a few weeks before the beginning of this study. [The structure of this test is not described.]

Results and Conclusions

Scores on the Article Survey were significantly higher for the high than the low proficiency group. Separate analyses for each of the two articles, "a" and "the," and for the zero article (i.e., the absence of an article) also showed the two groups to differ significantly in all three cases. Analyses according to specific function of each article were also performed (four functions of the indefinite article, five of the definite article, and two of the zero article; e.g., functions of the indefinite article include (a) the number one, (b) one undifferentiated specimen in a class, etc.). In these analyses the group differences were generally too small to be significant. For the written composition, the trend was in the direction of a difference between proficiency groups in correct article usage, but the group difference in this case was not significant ($p = .10$).

The Article Survey correlated .71 with the Michigan Placement Test and .58 with TOEFL (both correlations were significant). Thus, the Michigan test appears to be a moderately good predictor of overall performance on the test of article usage, and TOEFL also a moderately good, though a slightly less valid, predictor. Separate scores for the various article functions did not correlate well with TOEFL and the Michigan test, as the only significant correlations were those involving the general use of the zero article (TOEFL: $r = .65$; Michigan: $r = .74$).

Article usage scores derived from the composition correlated .47 with TOEFL and .37 with the Michigan test. While both of these correlations were significant, apparently the scores on these tests do not provide very accurate prediction of correct article usage in writing. Overall the results involving correlation with TOEFL and the Michigan test indicate that scores on these tests do not strongly reflect the subject's ability to use the English article system correctly. Scores on these tests do not, therefore, bear directly on development of strategies for teaching article functions.

Other results of interest include the following: (a) Various functions of the articles showed roughly the same rank ordering of difficulty for both the low and high proficiency groups. (b) When the data for the Article Survey and the composition were combined, article omission constituted 51 percent of all errors; incorrect use of the indefinite article, 25 percent of errors; and incorrect use of the definite article, 24 percent of errors. (c) In the compositions, more than half of the low proficiency group failed to produce situations involving seven of the 11 functions, and more than half of the high proficiency group failed to produce situations involving three of the same seven functions. This last result supports earlier claims that second language learners tend to avoid certain situations in which they are unsure of correct article usage.

Both the low and high proficiency groups had the greatest difficulty with the definite article followed by the indefinite article, then the zero article. This observed order of difficulty differs from that found in two other studies cited--one involving Japanese subjects only, the other involving 29 different language groups--in which the order of difficulty from highest to lowest was indefinite, definite, and zero article. Reasons for the difference among studies remain to be determined. Perhaps the difference is due to the different degrees of proficiency of the subjects in the various studies or differences in the instruments used.

50. Martin, G. M. (1971). A model for the cultural and statistical analysis of academic achievement of foreign graduate students at the University of North Carolina at Chapel Hill (Doctoral dissertation, University of North Carolina at Chapel Hill, 1971). Dissertation Abstracts International, 3[illegible]A. (University Microfilms No. 71-30, 578)

Purpose

This study addressed four sets of questions regarding academic performance of foreign graduate students at the University of North Carolina: (a) Do students who have taken TOEFL and been admitted with satisfactory scores differ from those who have been admitted without having taken TOEFL? (b) Does the difference between the above-mentioned two groups vary as a function of the students' geographic origin or major field of study? (c) Are there differences in academic performance among students from different geographic regions or among students enrolled in different major fields? (d) For those who have taken TOEFL, what is the relation between academic success and scores on each of the TOEFL subtests?

Background

For the past five years (1964-1969), the University of North Carolina at Chapel Hill has begun to require TOEFL of all foreign applicants. However, the requirement has not been strictly enforced, and only about 25 percent of enrolled students have taken TOEFL and received the minimum score required by the university (see below). For others, English proficiency has been determined on the basis of (a) certification by a U.S. government official or local English professor, (b) interview with a university representative, (c) school record, or (d) the student's self-evaluation or correspondence in English.

Method

The subjects were 144 male foreign graduate students who had begun their studies at the University of North Carolina at Chapel Hill between fall 1964 and fall 1969. (Too few females were available for inclusion in the sample.) A total of 72 subjects had taken the five-part TOEFL and received the required minimum score. (At the time of the study, the university's required minimum was a total score of 500 and a score of 50 on each subtest; however, previous scores had not met these criteria in every case.) These subjects were matched, with respect to geographic origin and major field, with 72 other students who had not taken TOEFL.

Forty countries were represented. For statistical analysis, subjects were grouped according to three major geographic regions: Europe and South America (including Cyprus, the Dominican Republic, and Puerto Rico; N = 44); Middle East (N = 42); and Asia (N = 58). A total of 35 major fields were represented; for analysis, these have been subdivided into four groups: the humanities (N = 22); the social sciences (including philosophy and political science) (N = 40); the sciences (natural sciences and mathematics) (N = 32); and professional schools (N = 48). [Major fields for two students are not reported.]

Data from the five-part TOEFL were available from the subjects' records [presumably based on administrations of the test in the International Testing Program].

Grade-point averages (GPAs) were calculated by the investigator. Although the University of North Carolina has no grade-point system as such, the following grades are given in each course: H (highest), P, L, F and Incomplete. The investigator assigned the following numbers to each grade: H = 3, P = 2, L = 1, F = 0, and Incomplete = 0. An average was then calculated, with the grade for each course weighted by the number of credit hours for that course.

Results and Conclusions

T tests were used to test for differences among various subgroups. It is noted that, because of the large number of t tests computed, some may have been significant by chance.

The first analyses of interest were comparisons of students who had taken TOEFL with those who had not. T tests showed the TOEFL takers to have significantly higher GPAs for both the first semester (2.20 vs 1.85) and the second semester (2.13 vs 1.67). A breakdown by geographic area shows the difference between TOEFL takers and non-TOEFL takers to be significant for all three major groups: Europeans and South Americans, Asians, and Middle Eastern subjects. A breakdown by major field shows that TOEFL takers had significantly higher first-semester grades than non-TOEFL takers for the sciences and the professions and significantly higher second-semester grades for the sciences, professions, and social sciences.

Analyses were also performed comparing the grades of the major geographic groups, separately for TOEFL takers and non-TOEFL takers. Only two of 12 possible differences were significant, both involving first-semester grades: (a) Middle Eastern subjects outperformed Asians among those not taking TOEFL, and (b) Middle Eastern subjects outperformed Europeans and South Americans among those taking TOEFL.

Comparisons among major-field groups showed eight of 24 differences to be significant. For TOEFL takers, first-semester grades were higher

for the sciences than for (a) the humanities, (b) the social sciences, and (c) the professions; second-semester grades were lower for the humanities than for (a) the social sciences, (b) the sciences, and (c) the professions. For non-TOEFL takers, second-semester grades for the sciences exceeded those for the social sciences and for the professions.

Correlations were computed between GPA and each of the TOEFL subscores for the 72 subjects who had TOEFL scores; correlations of GPAs (first- and second-semester) with TOEFL subscores ranged from -.17 to -.09 (all nonsignificant).

In general, subjects who took TOEFL and received scores satisfactory for admission performed better in both semesters than did those who had not taken TOEFL, and this was true for subjects from all three geographic groups. Thus, TOEFL appears to be a factor in the academic achievement of foreign male graduate students, at least those in the present sample.

For those admitted on the basis of satisfactory TOEFL scores, the lack of a significant correlation with GPA for any of the subtests indicates that, for these students, a relationship between TOEFL and academic performance cannot be inferred and no one TOEFL subtest is a better predictor than another.

51. Maxwell, A. (1966). A comparison of TOEFL and the UCB/EFL test. Unpublished master's thesis, Sacramento State College, CA.

Purpose

This study investigated the validity of the University of California, Berkeley, Test of English as a Foreign Language (UCB/EFL) by correlating it with TOEFL. The study also examined the predictive validity of both measures as reflected by correlations with students' overall grade-point average (GPA).

Method

The five-part TOEFL and the UCB/EFL were administered to 238 foreign students enrolled at the University of California, Berkeley, during the fall of 1964. The UCB/EFL consists of five parts. Part 1 consists of 55 multiple-choice items covering grammatical points included in a book on English sentence patterns. Part 2 consists of 20 multiple-choice items based on everyday vocabulary. Part 3 contains 10 multiple-choice items testing punctuation points for which there are firm rules. Part 4 consists of 20 low-frequency words that must be spelled by the subject. This part emphasizes major spelling patterns and the ability to discriminate English sounds ("r" vs. "l", etc.). Part 5 is a 100-150 word dictation test.

Student GPA for the 1964-65 academic year was based on content subject areas only. Thus, grades in physical education and remedial speech were deleted from the data. Separate correlations were calculated for separate subject areas.

Results

The correlation between TOEFL and the UCB/EFL was .87. The subjects showed a mean TOEFL score of 525 with a standard deviation of 79. Correlations with GPA for groups larger than 20 are depicted in Table 1.

Table 1

Correlations of TOEFL and UCB/EFL with GPA
for Various Groups of Subjects

Subject Group	N	Correlation with GPA		Significance Levels	
		TOEFL	UCB/EFL	TOEFL	UCB/EFL
All subjects	238	.17	.11	.01	ns
Undergraduates	191	.58	.53	.01	.01
Graduate students	47	.02	-.01	ns	ns
Economics/business majors	39	.45	.37	.01	.05
Engineering majors	101	.24	.20	.05	.05
Language/literature majors	21	.16	.07	ns	ns
Natural science majors	27	.38	.16	.05	ns
Subjects from Europe	105	.07	.01	ns	ns
Subjects from the Middle East	27	.50	.49	.01	.01
Subjects from the Far East	61	.24	.15	ns	ns
Males	202	.15	.12	.05	ns
Females	36	.33	.15	.05	ns

Conclusions

The high TOEFL-UCB/EFL correlation indicates that both tests are measuring similar characteristics. Both are valid predictors of GPA at the undergraduate level, while neither is a valid predictor at the graduate level. Considering the number of cases in which each test was significant, it would appear that TOEFL is the better predictive measure overall.

52. Mullen, K. A. (1978). Determining the effect of uncontrolled sources of error in a direct test of oral proficiency and the capability of the procedure to detect improvement following classroom instruction. In J. L. D. Clark (Ed.), Direct testing of speaking proficiency: Theory and application. Princeton, NJ: Educational Testing Service.

Purpose

This study sought to determine the reliability of an oral interview procedure and to determine the effects of classroom instruction in English as a second language (ESL) on the amount of improvement in both oral interview and TOEFL scores and on correlations between TOEFL and interview scores.

Method

The main sample consisted of 107 students in the ESL program at the University of Iowa who were given an oral interview both before and after a period of instruction. For 15 of these subjects, the five-part TOEFL was administered both before and after instruction; three additional subjects were given the Listening Comprehension subtest of the TOEFL at both times.

Each oral interview was conducted by two experienced ESL instructors and lasted 15 to 20 minutes. One interviewer took the lead in the interview, while the other listened and occasionally interjected questions to facilitate the conversation. After a general discussion to put the subject at ease, the subject was asked about a topic on which he or she could speak with authority for some time--e.g., regarding his or her family, education, academic interests, goals, opinions, impressions, or attitudes. After each interview the two interviewers rated the subject on five scales: listening comprehension, pronunciation, fluency, grammar, and overall proficiency. For each scale, five rating categories were used: poor, fair, good, above average, and excellent; interviewers were allowed to give ratings midway between any two categories, thus producing a nine-point rating system.

The subjects were interviewed twice, once when first evaluated for placement, and again after a semester of instruction. Instructors interviewed students who had not been in their classes, and some new students were interviewed during the second session to ensure that interviewers could not distinguish old and new students.

Results and Conclusions

Interview reliabilities obtained for the first and second sessions were not significantly different from each other for any of the five scales, and the mean reliabilities for these five scales ranged from .78 to .89. (Note that mean ratings provided by the two interviewers for each subject did not differ significantly, and, in all analyses, a subject's interview score was the average of the two interviewers' ratings. These reliabilities were based on 115 subjects interviewed in the first session and 152 subjects in the second.)

T tests for the main sample of 107 subjects showed that there was significant improvement from the first (pre-instruction) session to the second (post-instruction) session on all five interview scales. For the subsample of 15 subjects for whom TOEFL scores were available (18 subjects for Listening Comprehension), significant improvement was evident on four of the five interview scales (all but grammar) as well as the overall score and on three of the five TOEFL subtests (Listening Comprehension, English Structure, and Writing Ability) as well as the total score.

Of the TOEFL subtests, Listening Comprehension is most relevant to the topic of this paper, assessment of oral proficiency. Since this subtest requires some reading as well as listening, it is possible that improvement on this subtest could be at least partly due to improvement in reading proficiency. However, since the mean score on the Reading Comprehension subtest did not also show a significant improvement from the first to the second testing session, the performance change in Listening Comprehension appears to be due to a change in actual aural proficiency. This is consistent with the observed improvement in scores on the listening comprehension scale of the interview, as well as with the improvement in the other oral skills shown in the interview: pronunciation and fluency.

The TOEFL English Structure subtest might be regarded as a measure of passive control over English, since this test allows contemplation of possible choices, whereas the interview might be regarded as a measure of active control. If this is true, and if passive control is greater than active control, it would be expected that TOEFL and interview scores would not be highly correlated in the first testing period; however, as the subjects receive instruction and experience in English, they should develop active control as well as passive control, and thus the correlation between the interview and TOEFL scores should be higher for the second testing period. This was indeed the case. None of the correlations between TOEFL subtests and the interview was significant in the first session (*r*'s ranged up to .37), whereas several correlations were significant in the second session, particularly for two TOEFL subtests: TOEFL Listening Comprehension correlated significantly with interview scores in listening (.45), grammar (.43), and overall score (.54); and TOEFL Vocabulary correlated significantly with interview scores in listening (.46), pronunciation (.70), grammar (.46), and overall score (.44).

In general, the results demonstrate a reasonably reliable interview procedure for testing subjects' speaking proficiency. Low correlations between TOEFL and interview scores in the first session suggest that, initially, proficiency is low and passive control exceeds active control. However, the increase in correlation between TOEFL and interview scores as the student receives language instruction suggest a diminution in the difference between active and passive control of English.

53. Mullen, K. A. (1979). An alternative to the cloze test. In C. A. Yorio, K. Perkins, & J. Schacter (Eds.), On TESOL '79, The learner in focus (pp. 187-192). Washington, DC: Teachers of English to Speakers of Other Languages.

Purpose

This study compared performance on an editing test with performance on a cloze test and two direct tests of English proficiency. The two direct tests were an oral interview and a writing task. Relationships of these measures with TOEFL were also investigated for subjects with TOEFL test scores.

Method

The subjects were 54 foreign candidates for admission to the University of Louisville, including some who were seeking to transfer from community colleges. The subjects, who varied in their exposure to English language programs, were administered four proficiency tests: an editing test, a cloze test, a writing task, and an oral interview. Scores on the three-part TOEFL were available for 22 of the subjects [presumably obtained in International or Special Center administrations].

The editing test, based on a passage written at a seventh-grade reading level, required that the subjects cross out 50 words that did not belong in the passage. The 50 words in question had been taken from the original passage and had been subsequently inserted at random into that passage. Two performance scores were obtained for this task. The misidentification score was the number of words that belonged but were crossed out. The nonidentification score was the number of words that did not belong but were not crossed out.

The cloze test was also based on a passage written at a seventh-grade reading level. Every tenth word was deleted from the target passage and replaced by a blank, for a total of 50 deletions. The subjects were asked to fill in each blank with a word consistent with the grammar and meaning of the surrounding text. The cloze-exact score was based on the subject's reproduction of the exact words deleted. The cloze-acceptable score was based on the subject's generation of words that were semantically and syntactically acceptable in the context.

In the writing task the subjects wrote an essay on a topic selected from a number of possible topics. No time limit was imposed. Four readers evaluated each composition, and each reader assigned a score from 1 (poor) to 9 (excellent) on each of four dimensions: structure, organization, quantity, and vocabulary. The final score was the percent of total possible points a subject had earned, combined across all dimensions and readers.

Forty-three of the 54 subjects were administered the interview test. The scoring procedures were similar to those used for the writing task, except that the four rating dimensions were comprehension, fluency, control over structure, and pronunciation.

Results and Conclusions

Table 1 displays the mean score, standard deviation, and sample size for each measure.

Table 1

Mean Scores and Standard Deviations for Editing Test, Cloze Test, TOEFL, and Composition and Interview Evaluations

Measure	Mean	SD	N
Editing--Nonidentification (# wrong)	19.44	13.62	54
Editing--Misidentifications (# wrong)	17.98	14.20	54
Cloze-Acceptable (# right)	21.50	10.45	54
Cloze-Exact (# right)	14.90	8.27	54
TOEFL Listening Comprehension	47.27	5.56	18
TOEFL Structure and Writtten Expression	46.78	7.35	14
TOEFL Reading Comprehension and Vocabulary	48.21	7.06	14
TOEFL Total	468.40	51.66	22
Composition--% of possible points	54.50	21.98	54
Interview--% of possible points	62.41	22.30	43

Table 2 displays the correlations among the various measures. These correlations indicate that the nonidentification score on the editing test tended to correlate higher with the other measures than did the misidentification measure or a composite of the nonidentification and misidentification measures.

Table 2

Pearson Product-Moment Correlations of Scores on the Editing Test with the Cloze Test, TOEFL, and the Composition and Interview Evaluations

Measure	Score on Editing Test			
	Misident.	Nonident .	Misident.+ Nonident.	N
Cloze-Exact	-.25*	-.73***	-.58***	54
Cloze-Acceptable	-.39**	-.85***	-.74***	54
TOEFL Listening Comprehension	-.32	-.60**	-.53*	18
TOEFL Struc. & Written Express.	-.55**	-.60**	-.64**	14
TOEFL Rdg. Comp. & Voc.	-.05	.16	.07	14
TOEFL Total	-.25	-.43*	-.43*	22
Composition	-.39**	-.82***	-.71***	54
Interview	-.15	-.74***	-.53***	43

*$p < .05$ **$p < .01$ ***$p < .001$

Interestingly, the number of insertions correctly identified on the editing test (i.e., the complement of the nonidentification score) correlated higher with the composition score (.82) and with the interview score (.74) than did the cloze-acceptable score. (Corresponding correlations for the cloze-acceptable score were .77 and .67.) An inspection of item facility and discrimination indices showed that the two scores on the editing test had more desirable item characteristics than did the two scores on the cloze test. The interitem reliability of the number of insertions correctly identified on the editing test (.96) was higher than the corresponding reliability of the cloze-acceptable score (.92).

In summary, the data suggest that the nonidentification score on the editing test was superior to the misidentification score or the combination of the two, and was superior to the cloze-acceptable score, as measured by correlations with the direct indices of English proficiency.

54. Mullen, K. A. (1979). More on cloze tests as tests of proficiency in English as a second language. In E. J. Briere & F. B. Hinofotis (Eds.), Concepts in language testing: Some recent studies (pp. 21-32). Washington, DC: Teachers of English to Speakers of Other Languages.

Purpose

This study investigated performance on a cloze reading test as a function of cloze passage difficulty and method of scoring. It also investigated the criterion validity of cloze test performance in relation to performance on an oral interview, TOEFL, and a composition task.

Method

There were 154 subjects in the study, all of whom were administered an oral interview, a writing proficiency (i.e., composition) test, and a cloze test. TOEFL scores were available for 80 of the 154 subjects [the source of the subjects and whether the three- or five-part TOEFL was used are not indicated].

The oral interview was 15 minutes in length, and 15 pairs of interviewers were involved. Interviewers first asked general questions related to the subject's background and future plans, then asked more specific questions. The two interviewers judged the subject's speaking proficiency on four scales: listening comprehension, pronunciation, fluency, and grammar. Scores ranged from one to nine on each scale.

The cloze test was administered following the oral interview. This test consisted of two passages, one classified as easy, the other as difficult, drawn from reading instruction material. The easy passage was identified as a seventh-grade level text, and the difficult passage, a twelfth-grade level text. The cloze versions of the passages were constructed by deleting every tenth word after the first paragraph, for a total of 50 deletions. Order of presentation of the easy and difficult cloze passages was counterbalanced across subjects. One hour was allotted for completion of the entire test.

The composition test was administered after the cloze test. The subjects were given a booklet and were allowed one hour to write on an unspecified topic; they were told that their compositions would be evaluated on the basis of accurate sentence construction, appropriate use of vocabulary, organization of ideas, and quantity of writing. Compositions were scored by pairs of judges randomly selected from among eight pairs. Scores consisted of ordinal ratings on control over English structure, organization of ideas, quantity of writing, and appropriateness of vocabulary.

The data for analysis consisted of the interview score, the composition score, and the TOEFL score. Performance on the cloze test was described in terms of four measures: easy/exact score, easy/acceptable score, difficult/ exact score, and difficult/acceptable score. These terms referred to the difficulty level of the passage and whether the subject was scored according to reproduction of the original word deleted (exact score) or a semantically acceptable response (acceptable method).

Results and Conclusions

Analysis of variance indicated that cloze test performance was most affected by individual differences among subjects and, to a much lesser degree, by method of cloze scoring, passage difficulty, and the order in which the passages were presented. Method of cloze passage scoring accounted for more variance in scores than did level of passage difficulty, despite the fact that the easy passage was rated at the seventh-grade level and the other passage was rated at the twelfth-grade level.

The correlation between exact-word cloze score and oral interview score was not significantly different from the correlation between acceptable-word cloze score and oral interview score. This was true for both easy and difficult cloze passages. The highest of these four correlations was that involving the acceptable-word score for the easy passage (r = .57).

The correlation of exact-word cloze score with TOEFL score was not significantly different from the correlation of acceptable-word cloze score with TOEFL score. This finding applied regardless of cloze passage difficulty level. The highest of these correlations was between the acceptable-word cloze score for the easy passage and TOEFL score (r = .69), which accounted for 47.6 percent of the variance in TOEFL scores.

The pattern of correlations involving the compositions was somewhat different. For the difficult (but not the easy) cloze passage, the acceptable-word cloze score correlated significantly higher with composition score than did exact-word score. Acceptable-word scoring of the easy cloze passage produced the highest correlation with composition test score (.76), predicting 58 percent of the variance in composition scores. In summary, the easy cloze passage score was the best predictor of scores on all three criterion measures, and this effect was most prominent for acceptable-word scores.

Inspection of the reliability coefficients for the various measures indicated that the correlation between a given cloze measure and a given proficiency test score was always less than the reliability of the test scores involved in the correlation. The reliability data indicated that each criterion score measured some aspect of second language proficiency that was not measured by the cloze test scores. This is shown by the fact

that the percentage of reliable variance in the interview that was not predicted by the cloze test ranged from 58 percent for easy/acceptable score to 69 percent for difficult/exact score; analogous percentages for TOEFL ranged from 45 percent to 62 percent and, for the composition, from 32 percent to 53 percent.

In general, it appears that the predictive ability of various cloze test scores was dependent on whether speaking or writing was the criterion measure.

55. Odunze, O. J. (1982). Test of English as a Foreign Language and first year GPA of Nigerian students (Doctoral dissertation, University of Missouri--Columbia, 1980). Dissertation Abstracts International, 42, 3419A-3420A. (University Microfilms No. 8202657)

Purpose

The objective of this study was to determine the relationship between TOEFL and the academic performance of Nigerian students in four U.S. universities. The study also sought to determine whether TOEFL scores differ as a function of various background variables.

Method

Questionnaires soliciting participation were sent to 289 Nigerian students in four Missouri universities, and questionnaires were returned by 260 students. A total of 220 respondents were undergraduates, and 118 of them had taken either the three-part or the five-part TOEFL between fall 1975 and winter 1980 [presumably via International or Special Center administrations] (none of the graduate students had taken TOEFL). These 118 students comprised the sample for the study. Three of the four major ethnic groups of Nigeria were represented: Ibo (40 subjects), Yoruba (40), and Efik (38); no Hausa students had taken TOEFL.

Grade-point averages (GPAs) were available for all subjects, separately for the first semester and the second semester at their U.S. universities.

Background information was also obtained from the students' questionnaires, including (a) ethnic group, (b) type of secondary school attended, (c) performance on the West African School Certificate examinations, (d) sex, and (e) parents' education.

Results and Conclusions

Correlational analyses showed no significant relationship between TOEFL scores and either first-semester GPA (r = .05) or second-semester GPA (r = .00). Several analyses of variance were also computed, to determine whether TOEFL scores differed as a function of various background variables. These analyses revealed no significant differences in TOEFL scores (a) among the three ethnic groups; (b) between subjects passing the West African School Certificate examination in division II and those passing in division III; (c) between males and females; (d) between students from government and private secondary schools; (e) between

students from Catholic and Anglican private schools; or (f) between students whose level of parental education was elementary, high school, university, or none.

Analyses of variance also showed that students from Catholic, Anglican, and government secondary schools did not differ in first-semester GPA [analysis of second-semester GPA is not reported] and that neither first- nor second-semester GPA varied as a function of ethnic group.

Analyses were also conducted involving TOEFL Listening Comprehension and English Structure subscores. ["English Structure," for those taking the three-part TOEFL, is assumed to mean the Structure and Written Expression section. Analyses involving a "Vocabulary" score are also reported, but a separate vocabulary score cannot have been available for students taking the three-part TOEFL, so these analyses are not summarized here as their meaning is not clear.] The correlation between Listening Comprehension and first-semester GPA was significant (r = .26). English Structure was not significantly correlated with first-semester GPA (r = .04). [Comparable analyses for second-semester GPA are not reported.]

It is concluded that TOEFL is not a good indicator of academic success in college. Although there was a small, significant relation between Listening Comprehension and academic performance, the replicability of this result needs to be determined.

56. Oller, J. W., Jr., & Hinofotis, F. B. (1980). Two mutually exclusive hypotheses about second language ability: Indivisible or partially divisible competence. In J. W. Oller, Jr., & K. Perkins (Eds.), Research in language testing (pp. 13-23). Rowley, MA: Newbury House. (ERIC Document Reproduction Service No. ED 139 267).

Purpose

To gather evidence that would support either a unitary or a divisible competence hypothesis about the nature of second language proficiency, interrelationships among measures were explored.

Method

Test data were gathered from two groups. The first group was composed of 159 students at the University of Tehran in Iran. With the help of the university and the American Field Service, all of these subjects were administered the five-section TOEFL plus a cloze test and a dictation test during 1972 and 1973. The seven measures were intercorrelated and a factor analysis was performed on the data.

The second group was composed of 106 students at the Center for English as a Second Language (CESL) at Southern Illinois University (SIU). All of these subjects took a cloze test, the three-part (Listening Comprehension, Structure, and Reading) CESL Placement Examination, and the Foreign Service Institute (FSI) oral proficiency interview, which produced five scores: accent, grammar, vocabulary, fluency, and comprehension. A subgroup of these students (N = 51) took the five-section TOEFL; these students generally fell into the top half of the sample with respect to English proficiency. [The nature of the test administration is not indicated.] Intercorrelations were computed among the nine measures for the larger group (and among the 14 measures for those taking TOEFL); principal components factor analyses were also performed.

Results

The analysis for the Iranian students indicated that a single factor accounted for 100 percent of the total variance in the matrix. The product of the loadings of each pair of tests on the first or general (g) factor was almost identical to the correlation between the tests. This indicates that the general factor accounted for the correlation between each pair of measures.

Factor analysis for the SIU students identified two factors that accounted for 100 percent of the total variance. The first factor accounted for 87 percent of the variance and received no loading less than 69 percent on any single measure. Thus, about 13 percent of the total variance was not accounted for by the g factor. Examination of the factor solution suggests the existence of a separate oral factor that explains the loading on the FSI interview.

Among the subgroups that took TOEFL, there was considerably less variance on the CESL and FSI measures. In this case, the g factor accounted for only 65 percent of the total variance on the three batteries of tests. Analysis of data for the subjects who took TOEFL indicated the possible existence of a third factor (listening), since heavy loadings on this factor were observed for both the TOEFL and CESL Listening Comprehension sections.

Conclusions

Considering the results of all three sets of data, there is no support for the notion of separate components of structure, vocabulary, and phonology. There is some evidence for a speaking factor associated with performance on the FSI interview. Overall, the evidence points to the existence of a general proficiency factor that accounts for 65 percent or more of the total variance in the several tests investigated.

57. Oller, J. W., Jr., & Spolsky, B. (1979). The Test of English as a Foreign Language. In B. Spolsky (Ed.), Some major tests. Advances in language testing series: 1. Papers in applied linguistics (pp. 92-100). Arlington, VA: Center for Applied Linguistics. (Edited volume available as ERIC Document Reproduction Service No. ED 183 004)

Purpose

This descriptive/analytic paper deals with the history of TOEFL's development, assumptions underlying the test, its use and interpretation, and future directions. [See also summaries of Jameson & Malcolm, 1973, and Palmer, 1965, for details on the early history of TOEFL.]

Discussion

History of TOEFL

At a 1961 conference on English language testing, the need was expressed for a systematic method of assessing the English proficiency of foreign applicants to U.S. colleges; this need was made further apparent by a 1962 survey of U.S. colleges, showing that several methods for evaluating applicants' English proficiency were in use at the time. On the basis of suggestions made at the 1961 conference, the National Council on the Testing of English as a Foreign Language was formed, representing 30 organizations. With foundation support, the National Council established a staff to develop a test, to be named the Test of English as a Foreign Language, or TOEFL. The test was developed in 1963 and first administered in 1964. This objective test consisted of five parts [as described in the Introduction to this collection.]

Various procedural changes have taken place over the years. Until 1969, all new questions were specially pretested with foreign students at American institutions; thereafter, all regular administrations in domestic test centers included experimental items to be included in later operational tests. Also, local agents have taken over administrative functions where possible. Further, a new equating system was developed that would not require the reuse of items and thus jeopardize test security. Despite such procedural changes, however, the basic format of the test had not changed substantially at the time of this writing.

Assumptions

The following principles were set down to guide TOEFL development: (a) contrastive analysis should not serve as a basis for test construction, (b) testing of reading comprehension should not involve difficult

vocabulary, and (c) language should be presented in a realistic context. In addition, test development also appeared to involve two implicit assumptions: (a) the test should be standardized in relation to a large population of nonnative speakers, and (b) various skills should be tested, with the test containing both discrete-item sections (English Structure, Vocabulary, and Writing Ability) and more integrative sections (Listening and Reading Comprehension).

From a linguistic standpoint, these last two assumptions might be questioned. Regarding the first assumption, one could argue that the test should be standardized in reference to native rather than nonnative speakers, particularly if the test is to be used to estimate readiness to study in the U.S. Angoff and Sharon (1971) found that, in the Writing Ability section of a certain TOEFL form, nonnative speakers outperformed native speakers on a full 21 percent of the items. This would suggest that all TOEFL sections have not always focused on tasks that native speakers do well.

Regarding the second assumption, there is much research to suggest that the subscores on TOEFL or any other language proficiency test tend to be highly intercorrelated. Although the TOEFL manual (Educational Testing Service, 1973) reports low correlations between Listening Comprehension and other parts of the test, for most nonnative speakers the ability to listen with comprehension is highly related to reading and writing skills, as shown in research with the cloze test, dictation, and other measures. Perhaps the low correlations between TOEFL subscores reflect low validity of one or more sections. Of course, the notion of testing separate subskills predated much of the current research, and it is hoped that future test development will take account of this and later research.

Use and Interpretation of TOEFL

An issue of debate concerns prediction of a foreign student's academic success on the basis of scores on TOEFL (or other English proficiency tests). Some scholars have argued that grade-point average (GPA) is not a relevant criterion for validating TOEFL, while others maintain that GPA should be predicted by TOEFL. The 1968 TOEFL manual[1] referred to several studies claiming to relate TOEFL to GPA as a criterion for validation. However, the 1973 manual (Educational Testing Service, 1973) noted that such studies "have generally yielded positive correlations... but... usually so low as to be of little practical usefulness in the admission process." The manual notes that this result is to be expected if TOEFL scores are used appropriately. If only those students with high English proficiency are admitted, or if course loads and English training are adjusted to meet the student's needs, English proficiency should not be a major factor in determining academic success.

[1] Educational Testing Service (1968). Test of English as a Foreign Language: Interpretive information. Princeton, NJ: Author.

Another issue often raised is that TOEFL scores should not be interpreted in an absolute manner and that a TOEFL score should be regarded as falling within a certain range of proficiency. The TOEFL interpretive manuals have sought to discourage absolute interpretations and the use of cutoff scores. The 1968 manual urged institutions to conduct their own studies; at the same time, however, it did provide guidelines for admissions decisions based on various TOEFL score ranges, as suggested by some colleges' experiences. The later, 1973 manual, was more cautious, as it did not provide guidelines but, rather, presented the results of a 1969 survey showing the TOEFL score ranges associated with various decisions at a number of institutions. It also stressed several principles for the proper interpretation of TOEFL scores [see Summary No. 27, Educational Testing Service, 1973].

Future Directions for the TOEFL

At the time of writing of this paper [probably ca. 1974], changes in the TOEFL are under consideration, based partly on data from the study by Pike (1979), and partly on input from specialists. It has been difficult to say exactly what the five sections of TOEFL are measuring, and data from studies such as that of Pike will be helpful in addressing this issue. The Pike data show that, surprisingly, Listening Comprehension correlated better with an essay than with an interview score, and Writing Ability correlated no better with the essay test than with the interview and a cloze test. In general, Pike's data suggest that all the TOEFL subtests may be highly interrelated, so there appears to be little basis for concluding that the various test sections are measuring different skills. This view coincides, in part, with the recommendation from the Pike study that the number of test sections be reduced, with consolidation of those that are particularly highly correlated.

It is hoped that the changes under consideration will help improve the test's effectiveness as a measure of English proficiency, just as recent changes have improved the efficiency of TOEFL's administration.

58. Osanyinbi, J. A. (1975). A concurrent validity study of the West African School Certificate and General Certificate of Education English Language Examination, using Educational Testing Service's Test of English as a Foreign Language as the criterion measure (Doctoral dissertation, University of Wisconsin, 1974). Dissertation Abstracts International, 35, 5130A-5131A. (University Microfilms No. 74-22, 134)

Purpose

This study determined the relationships among TOEFL and the part and total scores on the West African Examinations Council School Certificate and General Certificate of Education (SC/GCE) English Language Examination for a sample of the November 1972 SC/GCE candidate population in Nigeria. The SC/GCE English part and total scores were treated as predictor variables, to be correlated with a set of criterion measures, TOEFL and the SC/GCE aggregate score (defined below). The objective was to obtain information that could be used to improve the validity of the SC/GCE English test.

Method

The subjects were 217 male and female graduating high school students in Nigeria in the fall of 1972. All students enrolled in five high schools randomly selected from 30 high schools located near a TOEFL test center in the state of Lagos served as subjects. The subjects were administered the SC/GCE general achievement and English language tests through standard operational testing procedures. They were also administered the five-part TOEFL in a special experimental session. One-hundred-sixty students also took the optional Oral English Test of the SC/GCE test battery.

The SC/GCE English test consists of four subtests: two composition tasks, a test of reading comprehension and summary writing, and a test of vocabulary and syntax. The first subtest, labeled 1A, is a 45-minute analytically scored essay written on a common topic, about which substantial information is provided. Subtest 2A is an additional measure of writing lasting 45 minutes. Usually four essay topics are given in Subtest 2A, with much less information provided for the examinee's use than on the first essay; any one of the four topics may be attempted. Subtest 1B is a 75-minute test of reading comprehension and summary writing that requires the examinee to read three prose passages and then write a precis on one passage and give written answers to questions on the other two. Subtest 2B is a 100-item multiple-choice test of vocabulary and syntax; the 50-item vocabulary index is entitled Lexis (2B-L), and the 50-item syntax index is called Structure (2B-S). The battery also includes an optional Oral English Test that consists of a 150-word passage to be

read aloud; a listening comprehension measure in which the examinee is required to identify significant English stress, intonation, and phonemic contrasts in words and sentences; and an oral composition measure in which the examinee speaks for two minutes on a single topic chosen from a list of five topics.

The SC/GCE examinations also include separate achievement tests selected by the student in 54 subject areas; the SC/GCE aggregate score is the sum of the six best scores on the SC/GCE subject tests.

Results

The mean TOEFL score of the subjects was 549, indicating that the group was above average in comparison with the general population of examinees taking TOEFL. The KR-20 reliability of TOEFL for this group was .973, which compares favorably with the average reliability of .965 cited in the 1973 TOEFL manual (Educational Testing Service, 1973). The intercorrelations between the two test batteries are presented in Table 1.

Table 1

TOEFL - SC/GCE Intercorrelations

	Variable														
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 SC/GCE 1A															
2 SC/GCE 2A	57														
3 SC/GCE 1A & 2A	85	91													
4 SC/GCE 1B	42	47	50												
5 SC/GCE 2B-L	21	25	26	43											
6 SC/GCE 2B-S	53	50	58	61	60										
7 SC/GCE 2B-L+2B-S	36	39	42	54	91	87									
8 SC/GCE Eng. tot.	66	72	78	78	68	85	84								
9 SC/GCE Oral Eng.	28	23	28	30	26	46	38	41							
10 SC/GCE Aggregate	42	45	49	53	60	63	67	70	22						
11 TOEFL LC	32	39	41	53	62	66	72	70	55	51					
12 TOEFL ES	53	52	59	61	56	84	76	83	58	58	75				
13 TOEFL V	35	37	41	55	73	73	82	76	42	63	69	78			
14 TOEFL RC	30	32	35	56	65	62	73	68	29	62	62	61	75		
15 TOEFL WA	46	50	55	59	65	81	80	81	37	62	67	70	76	61	
16 TOEFL Total	44	48	52	65	74	83	87	86	54	67	88	90	90	81	86

Note: The decimal point has been omitted from each of these correlations to save space.

A principal components factor analysis was applied to the intercorrelations shown above. This analysis identified three factors that accounted for 76.4 percent of the variance. A general language ability factor accounted for 38.9 percent of the variance on both tests. The TOEFL scores showed heavier loadings on this factor than did the SC/GCE scores. An "essay" factor accounted for 21.5 percent of the variance. The SC/GCE scores loaded more heavily on this factor than did any of the TOEFL scores. Only the TOEFL English Structure and Writing Ability sections showed a moderate correlation with the essay factor. An oral English factor accounted for an additional 6 percent of the total variance, although only the SC/GCE Oral English test showed a strong relationship (.93) to this factor. Among the TOEFL sections, Listening Comprehension showed the highest relationship (.56) with the oral English factor. English Structure was the only section to load significantly on all three factors, which probably explains why it was the best predictor of overall proficiency as measured by SC/GCE English total (see correlational data above). The Vocabulary section loaded heavily on the general factor and only slightly on the oral English factor; the Reading Comprehension section loaded on the general factor only. The Writing Ability section loaded more heavily on the general language ability factor than on the essay factor, thus presenting only slight evidence of its construct validity as a surrogate direct measure of essay writing skill.

Conclusions

The two SC/GCE essay subtests did not correlate well with TOEFL Writing Ability. They showed low correlations with overall ESL competence and only a moderate correlation with each other, which is probably a result of their lack of reliability. Thus, their replacement by a multiple-choice measure of writing ability should be considered. The subtest measuring reading comprehension and summary writing should be replaced by a single multiple-choice measure of reading comprehension. Because this subtest confuses receptive and productive skills, it does not predict TOEFL Reading Comprehension and shows its highest correlations with TOEFL English Structure and Writing Ability. The Lexis and Structure subtest was found to be a valid measure. The Lexis score from this subtest correlated highest with TOEFL Vocabulary, while the Structure score correlated highest with TOEFL English Structure. The relationship of English language test scores (TOEFL and SC/GCE) to the SC/GCE aggregate score shows the extent to which achievement in other subjects in West African high schools is related to English proficiency.

59. Pack, A. C. (1972). A comparison between TOEFL and Michigan test scores and student success in (1) freshman English and (2) completing a college program. TESL Reporter, 5, 1-7, 9.

Purpose

This study examined (a) the relationsh p between the Michigan test and TOEFL, (b) the relationship between these tests for different language groups, and (c) the predictive validity of the tests for students at the Church College of Hawaii.

Method

A search was conducted of the records of students who attended the college between September 1960 and February 1972. Scores on the five-part TOEFL [presumably obtained via International administrations], the Michigan test, and freshman English grades were available for 402 students. The Michigan test was the battery of tests including the Test of Aural Comprehension and the three-part Michigan Test of English Language Proficiency (MTELP), which tests grammar, vocabulary and reading comprehension. [For a more complete description of the MTELP, see Summary No. 1, Abadzi, 1976.] For the total group the mean TOEFL score was 435 while the mean score on the MTELP was 67. Twenty-three members of this group graduated during this period.

Results

Correlations between TOEFL and the Michigan test were obtained. The correlations between equivalent sections on both tests were Aural or Listening Comprehension, .45; Structure-Grammar, .52;, Vocabulary, .62; Reading Comprehension, .49; and total test score, .66. [Note that the total score for the Michigan test used here is the total on the MTELP, which excludes the aural test.] Correlations were also obtained between total scores on these two tests for subjects from seven native countries. The correlations were Samoa, .55; Tonga, .69; Japan, .21; Taiwan, .66; Fiji, .80; Korea, .39; and Tahiti, .97. [Ns are not indicated.]

Each test showed a significant positive correlation ($r < .001$) with first-semester English grade. The test scores were not related to the probability that an examinee would graduate. [The obtained correlations and Ns are not given; also, the way in which probability of graduation was examined is not indicated.]

Conclusions

The correlation between TOEFL and the Michigan test was only moderate. Thus, these two tests are not interchangeable. While TOEFL and Michigan test scores are significantly related to the grade obtained in the first English course taken, they are not related to grades obtained in subsequent English courses nor are they related to the probability that an examinee will graduate.

60. Palmer, L. A. (1965). TOEFL: Testing of English as a Foreign Language. Bulletin of the National Catholic Education Association, 62, 235-238.

Purpose

This is a descriptive paper that details the background and early development of TOEFL [see also summaries of Oller & Spolsky, 1979, and Jameson & Malcolm, 1973].

Discussion

In May 1961, a conference on testing was held, sponsored by the National Association for Foreign Student Affairs, the Institute of International Education, and the Center for Applied Linguistics. Participating in the conference were members of the sponsoring organizations, government agencies, and professional associations involved with admission of foreign students, as well as organizations concerned with the testing of English as a foreign language. The purpose of the conference was to consider how to evaluate the English proficiency of foreign applicants to U.S. colleges and universities.

Despite the growing number of foreign applicants, English-language training facilities were inadequate at most institutions in which foreign students were enrolled. Furthermore, methods of determining these applicants' English competence prior to admission were quite varied. A U.S. Department of State survey of 950 institutions of higher education that enrolled foreign students revealed four types of criteria in use: (a) English test score (approximately 25 percent of institutions); (b) certification by a local official or English teacher, or an interview with a representative of the U.S. college or university (about 35 percent); (c) the applicant's school record (about 15 percent); and (d) the applicant's self-evaluation or correspondence in English (10 percent). More than 100 institutions indicated that they required no evidence of English proficiency.

Since the second of the above-mentioned categories, certification by a government offical, often involved testing, the majority of applicants were likely given some type of test. Still, there were serious problems with the tests and testing practices in use. Test security was a major problem, as tests were being used repeatedly under nonstandard conditions, so that test results could not be interpreted with confidence. Even less confidence could be placed in students' self-evaluations, or in school transcripts, which provide no direct evidence of English proficiency. Also, interviews tended to be unreliable, as the typical four-point rating scale allowed the rater much flexibility in interpretation.

Participants at the 1961 conference unanimously agreed on the need for a comprehensive testing program to evaluate the English proficiency of foreign applicants. Almost 95 percent of over 500 colleges and universities surveyed in 1962 also indicated a need for such a program.

As a result of the 1961 conference, the National Council on the Testing of English as a Foreign Language was formed in January 1962. The following year, with support by foundations to the Modern Language Association of America, the National Council established a program office at the Center for Applied Linguistics in order to develop the proposed test, which became known as the Test of English as a Foreign Language, or TOEFL. A contract was signed with Educational Testing Service to administer and score the test and report the test scores.

Development and administration of the test followed the guidelines proposed by the 1961 testing conference: (a) the test would be given under secure conditions on a worldwide basis three times a year (on the same dates at all test centers), with a new form developed for each administration; (b) the tests would be written by experienced teachers in English as a foreign language; (c) the policy-making body for the test would consist of representatives of government agencies and professional organizations involved with language assessment; and (d) the test would provide, along with a total score, reliable subscores indicating an examinee's listening comprehension, reading comprehension, knowledge of grammatical structure, command of English vocabulary, and recognition of appropriate style and usage in formal writing. The test that was developed consisted of five sections [see Introduction to this collection] providing subscores in the five areas specified above.

The test was first administered in February 1964 and again in November 1964 and January 1965, which was the last administration as of this writing. The tests were given in 107 cities in 59 countries (including 13 centers in the United States), and examinees included speakers of 71 different languages. More than 100 schools and institutions have made use of the services of the TOEFL program. Although the total number of candidates for the first three administrations was relatively small (1,800), the number is expected to increase greatly in the coming years.

61. Perkins, K., & Pharis, K. (1980). TOEFL scores in relation to standardized reading tests. In J. W. Oller, Jr., & K. Perkins (Eds.), Research in language testing. Rowley, MA: Newbury House.

Purpose

The issue under research was the extent of association between the TOEFL score and scores on three standardized reading tests. It was hypothesized that there should be a moderate to strong correlation between the TOEFL score and reading measures among foreign students who were almost ready for college study in English. Reading was selected as an area for investigation due to its importance in the college curriculum and the fact that nearly all proficiency testing in English as a second language requires that the examinee possess discourse reading skills.

Method

The subjects were three groups of students enrolled in fall 1976 or spring 1977 at the Center for English as a Second Language (CESL) at Southern Illinois University, Carbondale. The subjects were all classified in the top two (of six) levels of English proficiency based on TOEFL, Michigan, and CESL placement test scores.

Each of the three groups was given one of three English reading tests along with TOEFL [presumably the five-part version], which was administered routinely by the Center. Group 1 (N = 23) was administered the Nelson-Denny Reading Test, Form D, intended for grades 9 through 16. This test contains subtests of Reading Rate, Comprehension, and Vocabulary. Only the Comprehension and Vocabulary subtests were used here. Group 2 (N = 47) was administered level 2 of the Iowa Silent Reading Test; this level is intended for grades 9 through 14. Only performance on the Vocabulary and Comprehension sections of this test were examined. The Vocabulary section consists of 50 items intended to measure the depth, breadth, and precision of the student's general reading vocabulary. The Comprehension section contains 50 items tapping literal detail, reasoning in reading, and evaluation of information read. Thirty-eight questions are based on six short passages, which the reader can reread while answering the questions. Twelve questions test short-term recall; each question follows a different passage and must be answered without looking back at the passage. Group 3 (N = 40) was administered the McGraw-Hill Basic Skills System Reading Test, which contains 10 short passages followed by a total of 30 questions testing for main ideas and supporting details.

Results and Conclusions

For Group 1 there was a correlation of .49 ($p < .05$) between TOEFL score and the Nelson-Denny test score. The TOEFL Reading Comprehension

subscore correlated .15 with the Nelson-Denny score. For Group 2, the TOEFL total score correlated .46 ($p < .01$) with the Iowa test score. The correlation between the TOEFL Reading Comprehension subscore and the Iowa test score was .23. For Group 3, only the TOEFL Reading Comprehension subscore was used; this subscore correlated .91 ($p < .01$) with the McGraw-Hill test score.

It is concluded that the TOEFL total score, as hypothesized, is moderately to strongly related to reading test scores. Regarding the finding that TOEFL Reading Comprehension subscores did not correlate as well as expected with reading test scores for Groups 1 and 2, either of two explanations for this finding seems most likely. First, the number of items comprising the TOEFL Reading Comprehension section is smaller than the number of items on the whole TOEFL. This would reduce the variance of observed scores, and, as a result, the correlation between the TOEFL Reading Comprehension section and reading test scores might be expected to be smaller than the correlation between TOEFL total score and the reading measures. Second, the standardized reading measures used here might be speeded for nonnative English speakers. As a result, the construct validity of the reading tests might be questioned for nonnative English examinees.

 A2, B1, B2, B3, B6, E1, F1, G1

62. Pike, L. W. (1979). An evaluation of alternative item formats for testing English as a foreign language. (TOEFL Research Rep. No. 2; ETS Research Rep. No. 79-6.) Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 206 627.)

Purpose

Data were collected that would contribute to evaluating the five-part TOEFL and determining ways in which the test might be revised. Correlations were examined between sections of the test and (a) direct measures of speaking and writing ability, (b) indirect measures of writing ability, and (c) experimental multiple-choice tests. Students in three different countries were included to determine the generality of the relationships observed.

Method

The subjects were 98 examinees from Peru, 145 from Chile, and 199 from Japan. Scores on the five-part TOEFL were obtained from the October 1971 International administration for all subjects in the Peruvian sample and for about half the subjects in the other groups; scores were obtained from a special administration of the same TOEFL form for the remaining subjects. The five TOEFL subtests are Listening Comprehension, English Structure, Vocabulary, Reading Comprehension, and Writing Ability [see Introduction to summaries].

Other instruments were administered a short time after the administration of TOEFL. The subjects' scores on an essay test and an interview were obtained, to provide direct evidence of writing and speaking ability. [Both essay form and essay content were assessed, although essay form was of principal interest in this study.] The cloze test, in which the subjects determined the words deleted from a passage, also provided an index of writing ability that was more direct than a multiple-choice test but less direct than an essay (it is also thought to provide evidence of reading ability). A rewriting test, requiring the subjects to rewrite a passage of short, choppy sentences, provided another indirect measure of writing ability. Finally, four experimental objective tests were administered. In the sentence comprehension test, the subjects read and answered questions about written questions or statements. In the words in context test, the subjects selected the word or phrase that best matched that underlined in a sentence. The combining sentences test required the subjects to choose the best combination of several short sentences. The paragraph completion test was a multiple-choice cloze test; for each blank in a passage, the subject was to choose the deleted word from among four choices.

Results and Conclusions

Mean scores on the nine objective measures were lowest for subjects from Peru, while scores for subjects from Chile and Japan were relatively comparable to each other, with some variation across measures. Mean scores on the other measures were lowest for Peru and highest for Chile. These differences may reflect social class differences in the samples. Reliabilities of the measures (both objective and subjective) were highest for Peru (.82 to .98), most likely due to the fact that there was greater variation in scores for this group; in most cases, reliabilities were lowest for Japan (.66 to .92).

Intertest relationships were examined by correlations corrected for attenuation (unreliability). The Listening Comprehension subtest showed lower corrected correlations with the eight other objective measures than did the latter tests among themselves. Thus, the listening task apparently contributed variance not contributed by tests presented in the written mode. Reasonably high corrected correlations between Listening Comprehension and interview scores (ranging from .75 to .84 across groups) suggest that Listening Comprehension is an effective estimator of spoken communication ability. These results point to the value of retaining Listening Comprehension as a separate measure in TOEFL.

English Structure generally ranked second among the nine objective tests in reliability (.78 to .92 across countries). It was usually the best estimator of the essay form score (corrected $\underline{r}$'s of .81 to .98) and was one of the two best estimators of the interview scores (corrected $\underline{r}$'s of .69 to .88). These results indicate the value of retaining the English Structure section in TOEFL. A high relationship between this section and Writing Ability (corrected $\underline{r}$'s of .82 to .97) suggest that these two sections could be combined.

The Vocabulary score showed a relatively high relation to Reading Comprehension (corrected $\underline{r}$'s of .88 to .95) suggesting that these two sections could be combined.

Reading Comprehension correlated highly with three of the four experimental tests: words in context, combining sentences, and paragraph completion (corrected $\underline{r}$'s of .93 to .99) as well as with cloze test scores (.88 to .97). Thus, these other tests could also be used to tap processes related to reading ability.

Writing Ability estimated the essay form score reasonably well, with corrected $\underline{r}$'s of .93, .88, and .73 for Peru, Chile, and Japan, respectively. Thus, for the first two populations at least, the data did not support the notion that the TOEFL Writing Ability section should be replaced with a writing sample. English Structure correlated highly with Writing Ability (corrected $\underline{r}$'s of .82 to .97), suggesting that these two sections could be combined. Of the two subtests of Writing Ability, the one requiring error recognition correlated more highly with the essay form

score (corrected r's of .75 to .93) than did the one requiring sentence completion (.55 to .84), implying that the former section is more useful as an indirect index of subjects' writing ability.

Of the experimental subtests, three showed high corrected correlations with Reading Comprehension, as noted above. The fourth, the sentence comprehension test, showed lower corrected correlations with Reading Comprehension (.78 to .91), apparently because many subjects received perfect or near-perfect scores on this test, thus restricting the range of scores.

The scores for the rewriting test showed disappointingly low corrected correlations with the essay form scores (.19 to .54), perhaps because of the wide range of structural complexity in the subjects' responses, indicating that the rewriting task may be of limited value in its present form.

The cloze test was a reasonably good estimator of essay form scores (corrected r's of .78 to .94) and Reading Comprehension (.88 to .97), indicating its value as an indirect measure of writing or reading ability. The cloze test, in turn, was well estimated by several multiple-choice tests, including the words in context test (.94 to .98), the paragraph completion test (.86 to .99), and TOEFL English Structure (.82 to .93).

In general, the results suggest that the Listening Comprehension scores are relatively independent of the other multiple-choice measures; English Structure and Writing Ability form one cluster, and Reading Comprehension and Vocabulary form another. An implication is that TOEFL could be revised to provide three scores, corresponding to these three apparent groupings.

63. Pitcher, B., & Ra, J. B. (1967). The relation between scores on the Test of English as a Foreign Language and ratings of actual theme writing (Statistical Rep. No. 67-9). Princeton, NJ: Educational Testing Service.

Purpose

This study sought to determine the degree to which students' writing ability can be measured with an objective test by assessing the relation between the quality of students' writing samples and their scores on TOEFL, particularly the Writing Ability section.

Method

The subjects were 310 foreign students who had recently arrived in the U.S. and were enrolled in university courses in English as a foreign language or in intensive English language courses at six different institutions of higher education.

Scores on the five-part TOEFL were available for each student [presumably from International administrations]. Also, each student was given 30 minutes to write each of four themes dealing with (a) a holiday or festival, (b) a family member, (c) a city, and (d) a significant event. Fourteen persons served as readers, and each theme was rated by two readers. After a practice session in which rating standards were established by examining 10 sample themes, the themes were rated on a four-point scale. During the readings, the readers occasionally discussed and rated "problem themes," to further ensure consistency of rating standards. A student's overall score was the sum of the two ratings on each of the four themes; scores thus ranged from 8 to 32.

Results and Conclusions

One possible method of estimating reliability of ratings would be to obtain a correlation between the two ratings of each theme, for all 1,240 themes; this correlation was .64. Note, however, that this method ignores theme topics and counts each subject four times. A method that avoids these problems is to correlate the sum of the first four ratings with the sum of the second four ratings, for the four themes written by each subject. The correlation obtained by this method was .85. Application of the Spearman-Brown correction to this figure yielded a reliability coefficient of .92 for the sum of all eight ratings combined.

Correlations with overall theme rating for the TOEFL part scores were Listening Comprehension, .56; English Structure, .74; Vocabulary, .71;

Reading Comprehension, .65; and Writing Ability, .74. Correlation with total TOEFL score was .78.

Correlations were computed among TOEFL subtests. The highest correlations were those among English Structure, Vocabulary, and Writing Ability (ranging from .75 to .79); Listening Comprehension showed the lowest correlations with the other parts of the test. However, the range of correlations was relatively small--.60 to .79.

Stepwise regression analyses were also performed in which theme ratings were predicted from various combinations of TOEFL part scores. This analysis showed that the combination of English Structure and Writing Ability provided somewhat more effective prediction (multiple $\underline{R}$ = .78) than did either of these two subtests alone, and that prediction was improved slightly by also including the Vocabulary score (multiple $\underline{R}$ = .79). The other two TOEFL subtests are believed to measure aspects of language proficiency that are less important in predicting theme writing.

64. Powers, D. E. (1980). The relationship between scores on the Graduate Management Admission Test and the Test of English as a Foreign Language (TOEFL Research Rep. No. 5; ETS Research Rep. No. 80-31). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 218 329)

Purpose

This study investigated the relationship between section and total scores on the Graduate Management Admission Test (GMAT) and TOEFL. Of particular interest was the role played by the examinee's native language. It was hoped that the results would provide an explanation for the commonly observed "discrepancy" between TOEFL and GMAT scores. A second objective was to investigate the accuracy with which GMAT examinees report their TOEFL scores, in order to determine if self-reported scores could be used in certain contexts.

Method

A sample of 5,781 GMAT candidates, who had also taken the three-part TOEFL via International or Special Center administrations, were drawn from test files for the period between September 1977 and August 1979. The GMAT, a multiple-choice test designed for applicants to graduate schools of business, measures general verbal and mathematical abilities. The verbal section measures ability to understand and evaluate what is read and to recognize basic conventions of standard written English. The quantitative section tests basic mathematical skills and understanding of elementary mathematical concepts, as well as the ability to reason quantitatively, to solve quantitative problems, and to interpret data given in graphs, charts, or tables [description paraphrased from a recent GMAT publication]

Only examinees who indicated that they were not U.S. citizens and that English was not their primary language were selected. The average TOEFL score for the group was 552, which is considerably greater than the average of 506 for all graduate-level TOEFL examinees during 1976-77. The mean GMAT total score of this group was 394.5 as compared with a GMAT population mean of 500. The mean verbal score on the GMAT (GMAT-V) was 16.7 as compared to 26 for the GMAT population, and the mean quantitative score (GMAT-Q) was 28.4 as compared to 27 for all GMAT candidates tested during 1975-1978. Thus, these foreign candidates scored considerably below the mean on the GMAT-V and on the total test, and they scored slightly above the mean on the GMAT-Q.

Section and total scores on both tests were correlated using linear and curvilinear (quadratic) regression. The relationships were computed for all candidates and for the countries with the largest contingents.

The reported TOEFL scores of GMAT candidates were correlated with the actual TOEFL scores recorded in TOEFL program files, and the relationships between those scores and other selected variables were compared.

Results and Conclusions

Table 1 shows simple linear correlations between GMAT and TOEFL scores. As can be seen, the correlations between TOEFL subscores and GMAT-V score are considerably higher (.58 to .69) than those between TOEFL subscores and GMAT-Q score (.29 to .39). Thus, while these aptitude test scores consistently correlated with proficiency in English, the correlation was much higher for aptitude in the verbal domain than for aptitude in the quantitative domain. Table 1 also shows that the overall pattern of correlations of TOEFL scores with GMAT-V and GMAT-Q scores provides support for the discriminant validity of TOEFL as a measure of verbal rather than quantitative skills. The Listening Comprehension section showed a lower relationship with GMAT-V than did the other two TOEFL subscores. This finding is to be expected since the GMAT-V does not measure listening comprehension.

Table 1

Correlations Between GMAT and TOEFL Scores

	TOEFL Score			
GMAT Score	Listening Comprehension	Structure & Written Expression	Peading Comp. & Vocabulary	Total
GMAT-Verbal	.58	.66	.69	.71
GMAT-Quantitative	.29	.37	.39	.39
GMAT-Total	.52	.61	.64	.66

The use of curvilinear regression significantly increased the correlations between TOEFL scores and GMAT-V (increases ranged from .02 to .05) but did not increase the correlations with GMAT-Q. As would be expected, the increase in correlations with GMAT-Total, which is a combination of the verbal and quantitative scores, is midway between those for GMAT-V and GMAT-Q.

Using a quadratic equation, the relationship between TOEFL and GMAT-V and total scores was determined for the five native language groups having the largest number of GMAT candidates (India, Iran, Japan, Taiwan, and Thailand). The relationship between GMAT-V and TOEFL scores was similar

across language groups, except that the correlations were lower for Iranian examinees. The Iranians received lower scores than did any other group on both tests, and because the GMAT scores should show little differentiation among very low scoring candidates, the correlations between GMAT and TOEFL scores would also be expected to be lower for this group.

Finally, the mean section and total scores on both tests were calculated for each of 137 different native country groups. The native country means on both tests were then correlated and each correlation was found to be .91 or higher. Thus, the discrepancy observed between the TOEFL and GMAT scores of foreign students was consistent from country to country and was related to examinee English language proficiency. While nonnative English speakers consistently score lower on the GMAT than do native speakers, examinees who score higher on the TOEFL also tend to score higher on the GMAT.

The correlation between self-reported and actual TOEFL scores was found to be .91 or .92 (depending on the regression method used). The correlations of self-reported and actual TOEFL scores with GMAT scores and with self-reported undergraduate grade-point average were nearly identical. This suggests that self-reported TOEFL scores may be a useful substitute for actual TOEFL scores in studies in which the focus is on averages for groups or relationships among variables rather than on individuals.

65. Ratchford, D. L. (1982). Reading ability of entering freshmen international students at a southwestern state university: Some implications (Doctoral dissertation, University of Oklahoma, 1981). Dissertation Abstracts International, 42, 3088A-3089A. (University Microfilms No. 8129435)

Purpose

The present study examined the reading ability of foreign students seeking enrollment at a southwestern state university. One objective was to determine how well students were prepared to read textbooks, where this assessment was based on the students' cloze test scores and experts' judgments of the students' reading ability. A second objective was to assess the validity of scores on TOEFL, the Nelson-Denny Reading Test, and the cloze test against students' reading grade level as determined by the panel of experts.

Method

The subjects were 70 foreign students beginning their freshman year at the University of Oklahoma. All subjects had scores on the three-part TOEFL [presumably obtained in International or Special Center administrations]; only the original TOEFL score was used for any subject who had taken the test more than once. Students were sampled so that exactly 14 subjects fell into each of five TOEFL score ranges: 400-449, 450-499, 500-549, 550-599 and 600-649. The sample included only students majoring in engineering or nonscience related fields.

The subjects were administered the Nelson-Denny Reading Test. This test, designed for grades 9 to 16, consists of 100 vocabulary questions and 36 reading comprehension questions (based on eight reading passages) requiring 10 minutes and 20 minutes, respectively, to administer. The total score on this test is the score on the vocabulary items plus twice the score on the comprehension items. (Although the test also yields a reading rate score, this score was not used in the present study). The subjects were also administered two cloze tests. One was the general cloze test, which was constructed from a political science text. The passages used in this test fell in the upper one-third of reading difficulty (as determined by the Dale-Chall Readability Formula) among a set of passages sampled from general core course textbooks encountered by undergraduates. The second cloze test was either the nonscience cloze test (administered to 31 subjects) or the science cloze test (administered to 39 subjects). The nonscience cloze test used a passage from a journalism text, while the science cloze test used a passage from an engineering text. In constructing cloze test passages, every fifth word was deleted from the passages, which varied in length from 297 to 340 words.

A panel of reading experts assessed the general reading level, and reading level within the major field, for each subject. For this purpose, an instrument known as the Informal Reading Inventory was administered individually to a subject by one of the panel members. The subject read a series of passages, selected so as to represent readability levels ranging from the fourth through the sixteenth grade, as determined by use of the Fry and Flesch Readability Formulas. After reading a passage, the subject wrote answers to a brief set of questions about the passage [the exact number of questions is not given]. The panel member then evaluated the subject's answers. If an answer was vague the panel member restated the question until a response was given that indicated understanding or lack of understanding of the passage. If a subject was found to exhibit at least a 75 percent comprehension of a passage (as determined by a criterion established in other research), he or she was permitted to go on to the next most difficult passage. The total number of passages read by a subject was thus dependent on attaining a criterion level of performance. The final performance score assigned to the subjects was an integer from 4 to 16 that represented their reading grade level. A comparison of reading level judgments of the four panel members showed very high agreement for a sample of three subjects.

Results and Conclusions

Four sets of hypotheses were tested. Hypothesis 1 was that there would be a relation between the general cloze test score and the TOEFL score. Inspection of the data shows that, even though only four subjects answered 40 percent or more of the cloze items correctly (and thus were defined as falling into the group classified as the "instructional level"), the general cloze test score correlated .71 with the TOEFL score ($p < .001$).

Hypothesis 2 was similar to Hypothesis 1, except that it involved the relation between TOEFL and either the nonscience or science cloze test. For the nonscience cloze test, although only five of the 31 subjects scored at the instructional level, the score on this test correlated .78 with TOEFL score ($p < .001$). For the science cloze test, only three subjects scored at the instructional level, and the correlation with TOEFL score was .55 ($p < .001$).

Hypothesis 3 was that the expert panel's judgment of the subject's general reading grade level would relate to the other measures in the study--i.e., scores on the TOEFL, cloze, and Nelson-Denny tests. The TOEFL score was found to correlate .67 ($p < .001$) with the panel's judgment of reading grade level as determined by the Informal Reading Inventory. Performance on the general cloze test correlated .61 ($p < .001$) with judgment of the subject's reading grade level. The total Nelson-Denny score correlated .68 with the subject's reading grade level ($p < .001$); the correlation for the Nelson-Denny Vocabulary subscore was .61 ($p < .001$) and the correlation for the Nelson-Denny Comprehension subscore was .62 ($p < .001$).

Hypothesis 4 investigated whether there was a relationship among the experts' judgment of the subject's reading grade level, Nelson-Denny Reading Test score, general cloze test score, and performance on the nonscience or science cloze test of reading ability. TOEFL scores were also reconsidered in the ensuing analyses. Inspection of the correlations between judged reading grade level and other scores for nonscience majors showed no correlation higher than .65. (This latter correlation was established as a criterion for deciding that a given proficiency measure was an adequate indicator of a subject's reading ability.) A very similar result was found for science majors. While none of the correlations attained the .65 level, the correlations ranged from .45 to .63 for the nonscience majors, with the highest correlation between Nelson-Denny total score and judged reading grade level. The corresponding correlations for science majors ranged only from .29 to .57, with the highest correlation between TOEFL and judged reading grade level.

In general, the TOEFL score and the Nelson-Denny Reading Test score appear to be useful for screening entering foreign students with regard to their reading ability. Perhaps the Nelson-Denny Reading Test could be used as a supplement to TOEFL in making decisions about these students' English reading proficiency. Further research could provide additional information on the validity of the instruments used in the study.

66. Riggs, J. M. (1982). Cloze testing procedures in ESL: A prediction of academic success of foreign students and a comparison with TOEFL scores (Doctoral dissertation, Indiana University, 1981). Dissertation Abstracts International, 42, 5048A. (University Microfilms No. DA 8211187)

Purpose

This study examined the relation of first-year grade-point average (GPA) to cloze test scores and to TOEFL scores for foreign students at a community college.

Background

Although the purpose of TOEFL is not to predict academic success, and the evidence suggests that it is not very effective for this purpose, college faculty use TOEFL scores, in effect, to make decisions about probability of student success. Therefore, another test should be used, at least as a supplement to TOEFL, to determine a foreign student's ability to begin academic work. One possibility in this regard is the cloze test, in which students determine the words that have been deleted from a prose passage. The cloze test is an integrative, functional test in that it measures general language proficiency in the context of specific subject matter. TOEFL, in contrast, is a discrete-point type of test, which assesses knowledge of specific lexical, grammatical, or syntactical items. An integrative test is believed to be more related to one's ability to handle language in a contextually rich environment and thus more suitable for predicting academic success.

Method

The subjects were 23 foreign students who registered in fall 1977 at Vincennes University, a two-year community college in Indiana (seven additional students in the original sample were excluded due to transfer or placement into ESL classes). The large majority of the subjects (18 of the 23) were Arabic speakers and all but one were males. Students can begin academic work at Vincennes either by presenting a TOEFL score of at least 500 or by completing a set of courses in English as a second language. [The range of TOEFL scores reported below suggests that practically all subjects were in the latter category.]

The five-part TOEFL was administered before registration in fall 1977 to all subjects. The cloze test was administered within one week of the TOEFL. The cloze test consisted of three passages, two taken from a

general chemistry text used at Vincennes University and one from the commonly used freshman composition text. Every seventh word of each passage was deleted (except that the first and last sentence of each passage remained intact). The passages contained a total of 298 blanks, with approximately the same number of blanks per passage. The subject was to fill in the word that best completed each blank. All subjects finished well within the two hours alloted. The synonym, or acceptable-word, scoring method was used, in that synonyms for deleted words were accepted as correct; misspellings were not counted as mistakes.

GPAs were obtained for the fall semester, for the spring semester, and for the combined two semesters of the first year for each subject.

Results

TOEFL scores for the 23 subjects ranged from 314 to 522, with a median of 374. Relationships with GPA were examined by Spearman rank correlation. TOEFL score and cloze score, respectively, correlated .29 and .57 with overall GPA, .33 and .67 with fall-semester GPA, and .10 and .27 with spring-semester GPA. The correlation with overall GPA was nonsignificant for TOEFL but significant for the cloze test.

A separate analysis was done for subjects taking Composition 1 and chemistry, based on the combined grade for those courses alone [$\underline{N}$ not reported]. The Spearman rank correlation with this score was .50 for TOEFL and .70 for the cloze test.

The KR-21 reliability of the cloze test was .97. Reliabilities of the five parts of TOEFL ranged from .78 to .89. Scores on the cloze test correlated .77 with those on TOEFL.

Conclusions

The low correlation between TOEFL and GPA found here is consistent with the findings of some other studies. The small sample size makes it difficult to draw general conclusions, but the difference in correlations with TOEFL and the cloze test are worth noting. The suggestion is that a cloze test such as that used here more closely approximates a measure of the student's ability to perform in a language situation involving course-work than does TOEFL. The .77 correlation between the cloze test and TOEFL suggests some commonality between these tests, but the differential correlations with GPA suggest that the cloze test may be tapping an additional factor, perhaps something resembling academic readiness.

The fact that correlations with GPA were lower for the second semester than the first may be due to improvement in students' English skills

during the first semester, which tends to reduce the role of language ability in determining academic performance.

It is suggested that a test such as the cloze test be considered as a supplement to TOEFL in making admissions decisions about foreign students. More extensive empirical work would be needed, however, to determine the predictive validity of the test for this purpose and to establish appropriate decision scores for any specific institution that would use it.

67. Scholz, G. E., & Scholz, C. M. (1981, Detroit). Multiple-choice cloze tests of EST discourse: An exploration. Paper presented at the fifteenth annual TESOL convention. (ERIC Document Reproduction Service No. ED 208 656)

Purpose

This study examined various types of cloze tests, including a standard open-ended cloze test and several multiple-choice cloze tests that differed in the method by which distractors were selected. For groups of Chinese scientists, correlations were computed between these tests and criterion measures, including selected subtests of TOEFL and of the Comprehensive English Language Test for Speakers of English as a Second Language (CELT).

Method

The principal subjects were Chinese scientists attending an exchange program between China and the University of California--Los Angeles in the People's Republic of China. The subjects were drawn from many regions of China and ranged in age from 37 to 45. Most of them were lecturers, researchers, or professors in universities and technical institutes in China.

Two passages were used for the cloze test, one of 415 words involving science as an academic subject, and the other of 440 words involving science as a topic of popular interest. In each passage, every seventh word was deleted, except that one or two sentences at the beginning and end remained intact. There were 50 deletions per passage.

For the standard, open-ended cloze test, the subject was to write, in the blank space corresponding to each deleted word, the word that would best fill the space. Acceptable-word scoring was used; i.e., reasonable substitutes for the deleted word were accepted as correct. Four multiple-choice (MC) cloze tests were also developed. In one, the interlingual MC cloze test, the distractors were the three most common errors made by a sample of 161 Algerian students of the English language; the fourth response alternative was the deleted word.

To develop the other MC cloze tests, the two above-mentioned cloze tests were administered to a sample (Sample 1) of 187 Chinese scientists, the open-ended cloze test to 91 subjects, and the interlingual MC cloze test to 96 different subjects in the sample. The interlingual MC cloze test was then item-analyzed, and items with facility less than .15 (i.e., fewer than 15 percent of the subjects answering them correctly) or greater than .85 were eliminated, as were items with a discrimination parameter of .25 or less (i.e., correlation of .25 or less with total test score). The

result was the revised interlingual MC cloze test, which consisted of 20 items. In addition, the intralingual MC cloze test was developed by using, as distractors for each deleted word, the three most common errors made by the 91 Chinese subjects in Sample 1 who were given the open-ended cloze test. Finally, a teacher-made MC cloze test was developed by having Chinese and American teachers of English as a second language, working in groups, write what they believed to be the best distractors for each deleted word.

These last three MC cloze tests (revised interlingual, intralingual, and teacher-made) were administered to three randomly selected groups drawn from a second sample (Sample 2) of 167 Chinese scientists (Ns = 57, 56, and 54, respectively, for the three types of cloze test.) Also administered to all subjects were the Structure and Listening subtests of the CELT and the Reading Comprehension, Vocabulary, and Writing Ability subtests of the five-part TOEFL. The combination of these five scores, here labeled "composition proficiency score," was also computed for each subject.

Results and Conclusions

Reliabilities of the TOEFL subtests ranged from .55 to .81 for Sample 1 (N = 187) and from .60 to .90 for Sample 2 (N = 167), with the lowest reliability observed for Writing Ability and the highest for Vocabulary in each case. Reliabilities for the CELT subtests ranged from .52 to .78 across samples, and reliabilities for composite proficiency scores were .87 and .90 for the two samples. The homogeneity of the samples may have contributed to relatively low reliabilities for some subtests.

Reliabilities of the various versions of the cloze test, excluding the revised interlingual MC cloze test, were relatively consistent, ranging from .52 to .68. (For the revised interlingual MC cloze test, which had 20 rather than the full 50 items, reliabilities were .67 and .48 for the academic and popular passages, respectively.) Although these reliabilities are somewhat lower than those observed in previous studies, this finding may have been due to the homogeneity of the samples.

Data pertaining to the criterion validity of the cloze tests are available in the correlations between each of the cloze tests and the CELT and TOEFL subtests and the composite proficiency score (see Table 1). As Table 1 shows, performance in the open-ended cloze test correlated moderately strongly with composite proficiency (.67 and .64 for the two passages) and with TOEFL Reading Comprehension (.73 and .61). Also, the teacher-made MC test correlated moderately highly with the composite proficiency score (.62 and .74).

Table 1

Concurrent Validity Coefficients

Cloze test	English Proficiency Subtest[a]					Composite Proficiency Score
	CELT-S	CELT-L	TOEFL-RC	TOEFL-V	TOEFL-A	
Open-ended						
academic passage	.39	.51	.73	.42	.51	.67
popular passage	.40	.43	.61	.42	.52	.64
Interlingual MC						
academic passage	.39	.31	.42	.21	.45	.45
popular passage	.39	.35	.57	.40	.53	.58
Revised Interlingual MC						
academic passage	.29	.29	.56	.16	.36	.42
popular passage	.28	.08	.39	.31	.32	.38
Intralingual MC						
academic passage	.33	.41	.53	.35	.42	.49
popular passage	.43	.49	.64	.42	.55	.66
Teacher-made MC						
academic passage	.35	.44	.55	.53	.54	.62
popular passage	.48	.48	.69	.66	.59	.74

[a]Subtests, listed in order, are CELT-Structure, CELT-Listening, TOEFL-Reading Comprehension, TOEFL-Vocabulary, and TOEFL-Writing Ability.

In general, the validity coefficients were highest for the open-ended and teacher-made MC tests, and coefficients for the intralingual MC test were next highest. The lowest correlations were those involving the revised interlingual MC test; this may have been due partly to the fact that this test contained only 20 items, in contrast with the 50 items for each of the other tests.

For the MC cloze tests, correlations with the criterion measures were generally higher for the popular passage than for the academic passage. This may have resulted from the fact that the text of the academic passage was similar in nature to the text of the passages in the TOEFL Reading Comprehension subtest.

It appears that the open-ended cloze test is a slightly more valid measure of English proficiency (particularly reading comprehension) than are multiple-choice cloze tests when an academically oriented science passage is used. However, the intralingual and teacher-made MC cloze tests appear to be at least as valid as the open-ended cloze test when the text involves science as a topic of popular interest.

68. Schrader, W. B., & Pitcher, B. (1970). Interpreting performance of foreign law students on the Law School Admission Test and the Test of English as a Foreign Language (Statistical Rep. No. 70-25). Princeton, NJ: Educational Testing Service.

Purpose

This study examined the degree to which foreign students' performance in a pre-law school orientation program and later performance in law school was predicted by (a) TOEFL, (b) the Law School Admission Test (LSAT), and the Michigan Test of English Language Proficiency (MTELP). The study also assessed the amount of change in scores on TOEFL and the LSAT during the orientation program.

Method

The subjects were drawn from a group of 121 foreign students enrolled in an eight-week summer orientation program designed to prepare them to enter one of 23 law schools in the United States. Scores were available for 112 subjects on all of the tests described below, and data indicating performance in the orientation program were available for 108 of these subjects. These 108 subjects came from 36 different countries, grouped as follows: Europe (N = 41), Asia (N = 33), Latin America (N = 24), and Africa (N = 10). A total of 63 subjects had first-year average grades in one of four law schools: Columbia University, Harvard University, the University of Michigan, and New York University.

The five-part TOEFL and the LSAT were administered by orientation program staff near the beginning and again near the end of the summer session.

The LSAT produces a single score but has several parts: (a) Reading Comprehension requires the subject to read several passages and answer questions about them; (b) Reading Recall is similar but does not allow the subject to look back at the passages when answering the questions; (c) Data Interpretation requires the subject to answer questions about graphs or tables; (d) Principles and Cases measures reasoning similar to that required in legal studies; and (e) Figure Classification requires reasoning involving geometric symbols.

The MTELP, administered before the subjects came to the United States, also produces a single score and has three parts: (a) Grammar, which taps understanding of English grammatical structure; (b) Vocabulary, which tests knowledge of words commonly encountered in university study; and (c) Reading Comprehension, which requires reading and answering quest' .s about prose passages. [For a more complete description of the MTELP, see Summary No. 1, Abadzi, 1976.] The Michigan Test of Aural Comprehension was also administered to the subjects, but the data from this test were not analyzed.

At the end of the orientation program the subjects were graded in each of their two courses on a nine-point scale. Each instructor also rated the subjects on a four-point scale with regard to (a) their written English and (b) their spoken English.

Average law school grades were obtained for each of 63 subjects. Because of possible differences in grading standards among schools, it was decided that the mean and standard deviation of law school grades and of all other measures should be assumed to be uniform for the four law school groups. Thus, score adjustments were made such that each measure for a student was evaluated according to the student's score relative to other students in his or her own law school.

Results and Conclusions

Scores on the LSAT, total TOEFL, and each TOEFL section except Reading Comprehension showed significant increases over the eight-week orientation program. The mean initial TOEFL score of 570.1 was at the 84th percentile of all foreign students seeking admission to U.S. colleges between February 1964 and June 1969; the mean final score of 601.5 was at the 91st percentile. The mean initial and final LSAT scores, respectively, were at the 12th and 25th percentiles of all candidates given the LSAT in academic years 1966-67 and 1967-68. These gains may have been due to the orientation program or to such factors as living in the United States for eight weeks or the experience of having taken the test once before.

Analyses involving prediction of orientation-program grades included the initial LSAT, the MTELP, and initial TOEFL (including part scores) (N = 108). First, correlations among predictors were examined. All but three (of 28) correlations were above .50. The LSAT correlated .66 with TOEFL total and .52 with the MTELP; the latter two tests correlated .87 with each other. Among TOEFL part scores, the one that correlated most highly with LSAT was Reading Comprehension (r = .63; other r's = .45 to .55). Correlations with the MTELP were in the low 80s for three of the TOEFL sections: English Structure, Vocabulary, and Writing Ability; correlations with the other two sections were in the 50s. In general, there appears to be much overlap in abilities measured by the LSAT and the English language tests, although these abilities are not identical. There is evidently a strong commonality between TOEFL and the MTELP.

Average grade in the orientation program correlated .41 with the initial LSAT (N = 108). Average grade correlated .29 with the initial TOEFL and .18 with the MTELP, showing that prediction of academic performance from these English language tests was relatively poor. The fact that the MTELP was used as a basis for selection may have reduced its predictive validity.

Orientation-program instructors' ratings of writing ability correlated .35 with the initial LSAT, .34 with the initial TOEFL, and .19 with the MTELP; ratings of oral English correlated .35, .43, and .33 with these three tests, respectively. The two course grades correlated .57 with each other; the two ratings of writing ability correlated .59, and the two ratings of oral English correlated .62.

Post-orientation program TOEFL scores correlated .36, .42, and .48, respectively, with grades, written English ratings, and oral English ratings. These correlations were slightly higher than the correlations with initial TOEFL scores. Correlations of LSAT with these three measures, respectively, were .37, .34, and .32, which were slightly lower than those with the initial LSAT.

Prediction of grades in law school was based on 63 subjects [and the data were subjected to the above-mentioned adjustment] so the results must be interpreted with caution. Of the scores on the initial tests, five scores correlated higher than .40 with grades: LSAT (.47), TOEFL (.41), MTELP (.42), and two TOEFL sections, Writing Ability (.47) and Reading Comprehension (.43). (r's for other TOEFL sections ranged from .27 to .31.)

The multiple R of initial scores on the LSAT and TOEFL scores with law school grades was .48. Given that LSAT and TOEFL Writing Ability each correlated .47 with grades, joint use of TOEFL and the LSAT does not appear to improve prediction compared with use of either one of these two tests alone.

69. Scoon, A. R., & Blanchard, J. D. (1970, March). The relation of a test of English as a second language to measures of intelligence, achievement, and adjustment in a sample of American Indian students. Paper presented at the fourth annual TESOL Convention, San Francisco. (ERIC Document Reproduction Service No. ED 039 530)

Purpose

This study investigated performance on, and interrelationships among, intelligence and personality tests and TOEFL for a group of bilingual American Indian students. Several hypotheses were investigated. The first hypothesis was that Indian students would manifest an English ability skill, as measured by TOEFL scores, that was discriminable from personality adjustment and intelligence test scores. A second hypothesis was that low TOEFL scores would be associated with low scores on the personality adjustment test. A third hypothesis was that scores on a verbal intelligence test would be significantly different from scores on a nonverbal intelligence test for these Indian students. Further questions for research were (a) whether there would be sex differences on these tests and (b) whether these Indian students would show changes in their test scores from the ninth through the thirteenth year of school.

Method

The subjects were 142 bilingual American Indian students at the Institute of American Indian Arts in Santa Fe, New Mexico. Students attending this school were selected for admission on the basis of their artistic ability. The sample included 78 male and 64 female subjects from 11 Indian language families.

The instruments used in the study were the five-part TOEFL, the Otis Quick Scoring Mental Ability Test, Gamma, which was regarded as a test of verbal intelligence (VIQ), the Chicago Non-Verbal Examination, regarded as a test of nonverbal intelligence (NVIQ), the Iowa Test of Educational Development (ITED), and the Bell Adjustment Inventory Revised (1962) Student Form (Bell). [No details about these tests are given. However, for a brief description of the ITED, see Summary No. 12, Blanchard and Reedy, 1970.]

Not all subjects took all tests. Subjects in Set 1, which consisted of 78 students in grades 9-12, took the VIQ, NVIQ, TOEFL, ITED, and Bell tests. Set 2 subjects, consisting of 16 students in grades 9, 11, and 12, took the VIQ, NVIQ, TOEFL, and ITED tests. Set 3 subjects, consisting of 33 students in grade 13, took the VIQ, NVIQ, TOEFL, and BELL tests. Set 4 was the combination of subjects in Sets 1, 2, and 3 plus six additional subjects; analyses for Set 4 involved only the VIQ, NVIQ, and TOEFL scores.

Results

Over all subjects, NVIQ scores were found to be higher (mean = 107.7) than VIQ scores (mean = 90.6); this difference was statistically significant beyond the .001 level. The correlation between NVIQ scores and VIQ scores was .52. Some Indian language groups manifested higher NVIQ and VIQ scores than others. The average ITED scores for these subjects were generally low--below the 10th percentile nationally on all subscales of the ITED.

The mean total TOEFL score of the subjects was 483. Scores on the TOEFL sections showed a steady increase from the ninth through the thirteenth grade, with the exception of scores on the Listening Comprehension and English Structure sections, which showed a decline in the twelfth grade. Correlations between TOEFL subscores and total score and among the subtests of the ITED were modest to high; all of these correlations ranged from .48 to .88. The correlations across the TOEFL and ITED subtests were not as high, overall, as were the correlations among subscores and total TOEFL score. Correlations between TOEFL (part and total) scores and the scales on the Bell test were low, and none reached statistical significance.

Seventeen percent of the 133 subjects who took the TOEFL scored 550 or above, indicating no restriction based on their English proficiency for college work. Fifty-three percent of the subjects scored in the range 450-549; these students were judged to need some classwork in English as a second language (ESL) but no restriction in their college course load. Twenty-nine percent of the subjects scored in the range 300-449; these students were judged as needing considerable ESL classwork and a reduced college class load. Only one subject scored in the range 200-299, indicating the need for full-time ESL class work.

Factor analyses were performed separately on the data for Sets 1 through 4. Across all analyses, the TOEFL, intelligence, and achievement test scores emerged as important contributors to a first, general factor. This factor was interpreted as English language facility.

Conclusions

TOEFL appears to be a valid measure of English language skills of Indian students. The observed variation in TOEFL scores was similar to that typically observed among foreign students. ITED scores were judged to measure language ability, although the ITED generally appeared too difficult for these subjects. Colleges might benefit from evaluating the TOEFL scores of Indian students in making admissions decisions, as the ability of Indian students to succeed academically might be associated with their English proficiency.

70. Sharon, A. T. (1972). English proficiency, verbal aptitude, and foreign student success in American graduate schools. Educational and Psychological Measurement, 32, 425-431. Also printed as Test of English as a Foreign Language as a moderator of Graduate Record Examinations scores in the prediction of foreign students' grades in graduate school, 1971 (ETS Research Bulletin No. 71-50). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 058 304)

Purpose

This study sought to investigate how TOEFL would add to the predictive validity of the Graduate Record Examinations (GRE) Aptitude Test. One hypothesis was that TOEFL, as an English proficiency test, and the GRE, as a measure of academic aptitude, should yield different information about the preparation of foreign candidates for graduate school. A further hypothesis was that GRE verbal (GRE-V) scores should be better predictors of graduate school achievement for students with high TOEFL scores than for students with low TOEFL scores.

Method

A total of 975 foreign students were studied. Scores on the five-part TOEFL, GRE Aptitude Test scores, and graduate school grade-point average (GPA) were supplied by 24 graduate schools. [For a brief description of the GRE Aptitude Test, see Summary No. 4, American Association ..., 1971. Test scores were presumably obtained via preadmissions testing--e.g., International test administrations, in the case of TOEFL.] Information was also obtained regarding major field of study, number of semesters upon which the GPA was based, and whether the subjects had withdrawn from graduate school. For purposes of the study, major areas of study were categorized as (a) engineering, technology, and mathematics, (b) natural sciences, and (c) other.

Results and Conclusions

The TOEFL and GRE scores of the 975 subjects in this study were noticeably different from those of reference samples of examinees who had taken TOEFL and the GRE. The average TOEFL score of the present sample was 537 as compared to an average score of 487 for 113,975 foreign students who had taken the TOEFL in the period February 1964 through June 1969. The average GRE scores of the students in the present study were 348 for verbal (GRE-V) and 609 for quantitative (GRE-Q) score. These scores contrast with average scores of 516 for GRE-V and 524 for GRE-Q for

those taking the test in the period May 1966 through April 1969. (The latter examinees, who numbered approximately 539,000, were almost all native Americans.)

GRE-V score correlated .70 with TOEFL score for subjects in the present study. While this correlation is high, it is nonetheless consistent with a hypothesis that the tests are not measuring exactly the same underlying abilities.

The relationships of GPA with GRE-V, GRE-Q, and TOEFL scores were investigated separately for different major areas of study as well as for all majors combined. Linear regression analysis was used to determine how well GPA was predicted by combined GRE-V and TOEFL scores, and by combined GRE-Q and TOEFL scores. A special linear regression procedure was used that accommodated for differences in grade distributions across the 24 schools that were studied.

Over all majors, GRE-Q correlated .32 with GPA; this correlation was higher than that between GRE-V and GPA ($\underline{r}$ = .24) and that between TOEFL and GPA ($\underline{r}$ = .26). Grade-point average correlated more highly with GRE-Q than with TOEFL for both engineering, technology, and mathematics (GRE-Q: $\underline{r}$ = .39; TOEFL: $\underline{r}$ = .21) and the natural sciences (GRE-Q: $\underline{r}$ = .59; TOEFL: $\underline{r}$ = .39). For the "other" category, however, GPA correlated slightly higher with TOEFL ($\underline{r}$ = .39) than with GRE-Q ($\underline{r}$ = .28) or with GRE-V ($\underline{r}$ = .35). Combining TOEFL with GRE-V scores or TOEFL with GRE-Q scores was judged not to result in significantly higher predictability of GPA than was observed when the single best predictor was used. [No tests of statistical significance are cited to support this statement.]

Associations between GPA and GRE scores were examined based on whether the subjects had scored in a low, middle, or high TOEFL score range. These associations were investigated separately for (a) engineering, technology and mathematics and (b) other. (The natural sciences area was not investigated because of the small number of subjects in this major area.) For subjects with TOEFL scores in the low and middle ranges there were stronger relationships between GPA and both GRE-V and GRE-Q scores than had been observed when all levels of TOEFL scores were combined. For subjects with high TOEFL scores, however, there was no strong indication of a similar pattern of results. Further, prediction of GPA by GRE-V scores was better for subjects with low and middle TOEFL scores than for subjects with high TOEFL scores in the area of engineering, technology, and mathematics. This result was not consistent with the hypothesis that GRE-V scores should correlate better with GPA among students with high TOEFL scores than among those with low scores.

71. Shay, H. R. (1975). Affect [sic] of foreign students' language proficiency on academic performance. (Doctoral dissertation, West Virginia University, 1975). Dissertation Abstracts International, 36, 1983A-1984A. (University Microfilms No. 75-21, 931)

Purpose

This study ascertained the degree to which academic success of foreign graduate students in a U.S. university is related to (a) Graduate Record Examinations (GRE) Aptitude Test scores and (b) TOEFL scores. The study also inquired whether the predictive relationships for the GRE tend to differ for foreign and American graduate students.

Background

The literature for American and foreign students shows that the GRE is not a consistently reliable predictor of academic performance in graduate school. One problem for foreign students is that English language preparation in certain foreign countries is not adequate. TOEFL was developed to assist in making admissions decisions for foreign students. The test has been shown to correlate to a moderately high degree with other tests of English proficiency and thus appears to have good concurrent validity. However, relatively low correlations have been found between TOEFL and measures of later academic success. It has been argued that TOEFL's primary function for graduate students is as a moderator variable, to be used along with the GRE and other data in making admissions decisions.

Method

The subjects were graduate students who attended West Virginia University between May 1964 and May 1974. There were four groups of subjects: 174 foreign students who completed 30 hours toward a graduate degree (Group 1); 61 foreign students who failed to complete degree requirements (Group 2); 145 American students who had been undergraduates at West Virginia University (Group 3); and 165 American students who had been undergraduates elsewhere in the United States. (Group 4). The subjects in Groups 1, 3, and 4 were matched according to field of study and year of graduation. The foreign students were drawn from 31 different countries.

Graduate Record Examinations verbal (GRE-V) and quantitative (GRE-Q) Aptitude Test scores were available from preadmissions testing for 166

students in Group 1, 14 in Group 2, 144 in Group 3, and 164 in Group 4. [For a brief description of the GRE Aptitude Test, see Summary No. 4, American Association ..., 1971.] Scores on the five-part TOEFL were available from preadmissions testing [presumably International administrations] for 69 students in Group 1 and 55 students in Group 2. (Mean TOEFL scores of Groups 1 and 2 were 507 and 499, respectively; SDs = 52 and 42.)

Grade-point averages (GPAs) were calculated for all students at three stages in their graduate training: after completion of (a) 9 credit hours, (b) 21 credit hours, and (c) 30 credit hours.

Results and Conclusions

Analyses of variance showed no significant differences in GRE scores between groups of foreign students (Groups 1 and 2) or between groups of American students (3 and 4). However, significant differences in both the GRE-V and GRE-Q scores were found between the principal group of foreign students (Group 1) and each of the two groups of American students (3 and 4).

Correlational analyses performed separately for 9-, 21-, and 30-credit hour GPA revealed the following effects: GRE-V did not correlate significantly with any of the GPAs for Group 1 (r's = .06 to .09) or Group 3 (all r's = .15) but showed low significant correlations with the GPAs for Group 4 (r's = .18 to .29). GRE-Q showed low but significant correlations with the GPAs for Group 1 (.26 to .27), Group 3 (.25 to .28), and Group 4 (.16 to .25). Correlations for Group 2 were based on too few cases to interpret (N = 14). These data show that GRE-V failed to predict academic success for most groups and, while GRE-Q generally correlated significantly with GPA, this score accounted for only a small percentage of the variance in students' GPAs and thus may be of limited value as a predictor of academic success.

For the principal group of foreign students (Group 1), GRE-V was significantly correlated with total TOEFL score (r = .52) and with scores on four of the TOEFL subtests: Listening Comprehension (.30), Vocabulary (.46), Reading Comprehension (.43), and Writing Ability (.41). Thus, there appears to be at least some commonality in skills measured by these two tests.

For the principal group of foreign students (Group 1), correlations were computed between TOEFL and GPAs based on 9-, 21-, and 30-credit hours. Correlations between total TOEFL score and the GPAs were very low (ranging from .08 to .12). Of correlations involving the TOEFL subtests and GPAs, the only significant ones were those between English Structure and (a) 21-credit GPA (r = .29) and (b) 30-credit GPA (r = .33). All other correlations fell between -.10 and +.20 and were nonsignificant.

These low TOEFL-GPA correlations indicate that TOEFL is not a reliable predictor of academic success in graduate school.

It is recommended, among other suggestions, that admissions decisions be based on undergraduate transcripts and that currently used verbal aptitude and language proficiency tests be excluded as admissions criteria.

72. Sokari, H. (1981). Predictors of college success among foreign students from various ethnocultural backgrounds (Doctoral dissertation, University of San Francisco, 1980) Dissertation Abstracts International, 41, 3543A-3544A. (University Microfilms No. 8103656)

Purpose

This study examined the role of several variables in predicting college grade-point average (GPA) for foreign students in two colleges. Predictor variables included TOEFL scores, high school grades, sex, age, resident status (resident vs. commuter), college major, scores on the College Board Scholastic Aptitude Test (SAT), number of college units (credits) completed, and school attended.

Background

Three studies reviewed show that TOEFL appears to be a moderately good predictor of college success. However, these studies were limited in that two of them focused only on Asian students, and these studies did not compare TOEFL with other predictors. Research suggests that potential predictors include sex, age, high school grades, college entrance examination scores, resident status, and college major.

Method

The subjects were 420 undergraduate foreign students at two Catholic colleges in northern California (207 subjects from College 1, and 213 from College 2), each of which enrolls approximately 3,500 to 4,000 students annually. [The specific colleges are not named.] The total sample included 196 males and 224 females, drawn from 35 different countries of origin. The subjects ranged in age from 18 to 32 years, and TOEFL scores ranged from 412 to 660.

TOEFL scores were available from school records for College 1 only [these are presumably scores on the three-part TOEFL obtained via International or Special Center administrations]. Data for other predictor variables were available for both schools (except that resident status was not a variable for College 1, as all students there were commuters). Data available from school records included (a) scores on the SAT [for a brief description of the SAT, see Summary No. 2, Alderman, 1982] ; (b) average high school grade [whether transformed to a single scale is not indicated]; (c) age of the subject; (d) resident status (i.e., resident on campus vs. commuter); (e) major field; (f) number of scholastic units completed; and (g) ethnocultural backround, grouped into seven categories: Africa

(Gambia only), Oceania, (Cuba and Guam), North America (Canada), Europe (10 countries), Near and Middle East (seven countries), Middle and South America (six countries), and Far East (eight countries).

Results

Stepwise multiple regression analyses were performed separately for College 1 and College 2, with GPA as the criterion and each of the other variables mentioned above as predictors. The analyses included three scores from the SAT: verbal (SAT-V), mathematics (SAT-M), and total (SAT-V + SAT-M) scores. For College 1 (the college for which TOEFL scores were available), SAT-M score accounted for most of the total variance (57 percent) and, after the effect of SAT-M had been taken out, other variables accounted for negligible amounts of variance (each 4 percent or less). For College 2, average high school grade accounted for 26 percent of the total variance in GPA, SAT-M score added about 9 percent, and sex added 6 percent; other variables accounted for negligible amounts of variance (i.e., each 4 percent or less). Analysis for both colleges combined showed that SAT-M accounted for the greatest amount of variance in GPA (28 percent), with sex accounting for an additional 8 percent, and average high school grade an additional 6 percent; other variables accounted for negligible amounts of variance (3 percent or less).

A stepwise multiple regression analysis was also performed for College 1 with TOEFL as a criterion and all other variables, including college GPA, as predictors. In this analysis, total SAT accounted for the largest amount of variance in the TOEFL score (27 percent), with other variables accounting for negligible amounts of variance (each 1 percent or less).

Additional analyses were also performed to test the effects of each predictor separately on college GPA. Each analysis consisted of a contrast between groups, with the mean difference in GPA compared to the common standard deviation. These analyses showed significant differences in GPA as a function of college attended (grades at College 1 were higher than those at College 2) and sex (males outperformed females), with the level of significance greater for students from male-dominated geographic regions, especially for certain college majors (humanities, physical and life sciences, and business administration). GPA was also significantly related to the subject's age (older subjects outperformed younger students) and to average high school grade for College 2. Also related to GPA were SAT scores, particularly SAT-M, and number of scholastic units completed. There was a suggested relation between resident status and GPA, with residents performing better than commuters, although the lack of resident students at one college prevents strong conclusions in this regard. Finally, the relation of TOEFL to GPA was examined for subjects at College 1 by dividing these subjects into two groups according to their TOEFL scores: 412 to 609 and 610 to 660. No significant difference between groups was found, indicating a failure of the TOEFL score to predict college GPA.

Conclusions

The results suggest that TOEFL is not a good predictor of college academic performance. Of the variables studied here, the best predictor appeared to be the SAT-M score. Also of some value as a predictor is the student's sex (particularly for students from male-dominated societies) and, to a lesser degree, the student's age. The results regarding effects of average high school grade are mixed, as a significant relation of this variable to GPA was found for one college but not the other. Perhaps the role of high school grades is moderated by the student's major and/or region of origin; the college in which a significant relation was found had a high percentage of Middle and South Americans majoring in engineering, whereas in the other college, more than half the foreign students were from the Far East and there was a higher percentage of business administration majors.

73. St. Martin, G. M. (1979). Effect of sojourner housing situations on second language acquisition. Paper presented at the meeting of the Society for Intercultural Training, Education, and Research, Mexico City. (ERIC Document Reproduction Service No. ED 183 005)

Purpose

This study sought to determine whether living with an American family while taking an intensive English language course would improve foreign students' learning of English.

Method

The subjects were 83 students enrolled in a 14-week intensive English language course who had chosen to live with American families ("homestay subjects") and 83 other students ("non-homestay subjects") who were matched with them in scores on the Michigan A or Michigan Placement Test. [The structures of these tests are not described.] In most cases, pairs were also matched for sex and native language. Non-homestay subjects lived in dormitories or apartments, typically with, or close to, speakers of their native languages. Eleven different native languages were represented.

Instruction consisted of 22.5 total hours per week of classes in five areas: spoken English, grammar, composition, reading, and laboratory. At the end of the 14-week term, all students were graded in all areas except the laboratory. Also, most subjects took the three-part TOEFL [presumably at International or Special Center administrations], yielding 69 pairs of subjects on which analyses involving TOEFL were based.

Results and Conclusions

Analysis of variance showed significant differences between homestay and non-homestay subjects in total TOEFL score and in two subsections: (a) Listening Comprehension, and (b) Reading Comprehension and Vocabulary; the difference for the third section, Structure and Written Expression section, was in the same direction but was not significant. Analyses of variance also showed significant differences in favor of homestay subjects in grades in all areas: spoken English, grammar, reading, and composition.

The results support the assumption that the best way to acquire language competence is to live in an environment in which it is used. Among possible reasons for this is that homestay students may be encouraged to experiment with English in a relatively relaxed atmosphere. The

present results, however, might also be due to the fact that students who choose the homestay situation are less shy and have a more positive attitude toward English and English language speakers than do students who do not choose this situation.

74. Stevenson, D. K. (1975). A preliminary investigation of construct validity and the Test of English as a Foreign Language (Doctoral dissertation, University of New Mexico, 1974). Dissertation Abstracts International, 36, 1352A. (University Microfilms No. 75-18, 664)

Purpose

The first portion of this thesis discusses the assessment of validity in relation to TOEFL and language tests in general; the second portion describes a project to develop an oral cloze test and determine its relationship to TOEFL and other measures.

Background

Several forces led to development of TOEFL, including the need for a language measure to use in selecting foreign students for admission to colleges and universities in the United States and Canada. Although TOEFL appears not to be a suitable predictor of college performance, it is most important that TOEFL assess the language proficiency required for academic success. A problem is that it has been difficult to define such a requirement. Yet the validity of TOEFL as a measure of English language proficiency needs to be established.

Content validation is one approach. Unfortunately, linguistic theory does not include specifications that can provide a firm basis for content validation of TOEFL. Expert judges can only determine if the content seems reasonably in accord with theory. Even then, the content selected by such judgmental procedures might prove to relate more to a foreign-speaker standard than to the more appropriate native-speaker standard.

A second method is criterion-related validation--determining if the test is sufficiently related to another, accepted measure of English proficiency. A problem, however, is that it is difficult to find a criterion measure whose own validity has been clearly established. Also, if the criterion is to be a behavior sample, appropriate quantification poses some difficulty.

A third approach--construct validation--is advocated here. This approach involves demonstrating (a) that two or more intended indices of the same skill are relatively highly related (thus showing "convergent validity") and (b) that two intended indices of different skills are less highly related (thus showing "discriminant validity"). The discriminant validity of the five TOEFL subtests may not be sufficient to conclude that these different parts are measuring different skills (cf., data from Pike, 1979).

A multitrait multimethod approach to examining the validity of the TOEFL Listening and Reading Comprehension section is advocated.[1] By this method, convergent and discriminant validity would be demonstrated if correlations among tests of a single skill, using different methods, were higher than correlations between tests of different skills, using similar methods. In this regard, it is proposed that the TOEFL Listening and Reading Comprehension subtests be administered along with an oral and a written cloze test in order to examine interrelationships among these tests. The research summarized below is an effort to develop an oral cloze test that might be used for this purpose and to determine its relation to TOEFL and to another test of listening ability.

Method

[Development of the oral cloze test included several phases, and only the phase involving comparison with TOEFL is summarized here. Development of a written cloze test, which was not compared with TOEFL, is also not discussed.]

The subjects were 101 foreign students at Indiana University, 45 of whom were included in the analyses involving TOEFL.

In the oral cloze test, the subjects listened to two passages totaling 434 words of difficulty appropriate for junior-high level native English speakers. Every seventh word was replaced with a bell sound, and a six-second pause was inserted after every sentence to facilitate responding. The subjects guessed each deleted word by writing it on a separate answer sheet. Each passage was repeated four times. Responses were scored by an exact-word criterion (i.e., only the precise word that had been deleted was scored correct).

A multiple-choice version of the noise test (see Gradman & Spolsky, 1974) was also administered. In this test, the subjects listened to 50 sentences with a white noise overlay and, for each sentence, chose the one sentence out of five listed on an answer sheet that matched the sentence heard. Scores on the five-part TOEFL [presumably obtained at International administrations] were available from the students' institutional records.

Results and Conclusions

For the full sample of 101 students, the oral cloze test showed a suitable score range (0 to 36, of a possible 50) and KR-21 reliability of

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[1] Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.

.84. For the 46 students for whom TOEFL data were available, the score range was 2 to 36, and the KR-21 reliability was .76. For the noise test, a KR-21 reliability of .51 was observed for these 46 students.

Correlations were computed among the oral cloze test, the noise test, and the five TOEFL subtests. Initial results of interest included the following: (a) intercorrelations among the TOEFL subtests were not as high as in most studies (here, .05 to .67, median = .54); (b) the oral cloze test correlated most highly with the noise test (.67); and (c) correlations with the TOEFL subtests were higher for the oral cloze test (.29 to .51) than for the noise test (.19 to .45). Of particular interest is that the oral cloze test correlated more highly with TOEFL Reading Comprehension (.51) than with Listening Comprehension (.32). This last result implies either (a) that the oral cloze test may not be an effective test of listening ability, or (b) that the TOEFL subtests may be deficient in construct validity.

A factor analysis of the seven variables was performed, and loadings on two factors were generated by varimax rotation. The highest loadings on one factor involved the oral cloze test, the TOEFL Listening Comprehension subtest, and the noise test; the highest loadings on the other factor involved the other four TOEFL subtests. Although caution is warranted in interpreting the data from such a small sample, one factor observed here is tentatively identified as a listening factor and the other as a general language proficiency factor.

The oral cloze test, developed as an experimental measure, shows promise as an instrument for further research on the construct validity of TOEFL and other language measures.

75. Stover, A. D. (1982). Effects of language admission criteria on academic performance of non-native English-speaking students (Doctoral dissertation, University of Arizona, 1981). Dissertation Abstracts International, 42, 4374A-4375A. (University Microfilms No. DA 8207017)

Purpose

This study investigated the contribution of TOEFL scores, average grade in the final semester of pre-university classes in English as a second language (ESL), native language, and major area of study to prediction of first-semester university grade-point average (GPA). Two independent samples of students were employed in order to ascertain the generalizability of results.

Method

The main sample of subjects were 159 students (98 undergraduate and 61 graduates) who enrolled in the Center for English as a Second Language (CESL) at the University of Arizona between spring 1978 and fall 1979 and later enrolled in the regular academic curriculum at the university. Admission to the University of Arizona required a TOEFL score of 450 or above and a minimum average grade of 2.5 in CESL classwork. These subjects had taken the three-part TOEFL.

The validation sample consisted of 142 students (91 undergraduates and 51 graduates) who enrolled in the CESL during summer 1976 to fall 1977, then enrolled in the regular academic curriculum at the University of Arizona. There was no minimum CESL grade requirement for university admission in force for the validation sample, which had matriculated earlier than the main sample. The validation sample had taken the five-part TOEFL. For both samples, TOEFL scores [presumably obtained in International administrations] and first-semester university GPA were obtained from school records.

The predictive validity of TOEFL and the average CESL grade were examined for Arabic, Japanese, Spanish, and "other" language groups. Also, the data were examined separately for several major areas of study: agriculture, business, engineering, liberal arts, fine arts, social sciences, and "others."

Results and Conclusions

In both samples, subjects with a minimum grade of 2.50 in the final semester of the CESL obtained an average GPA in their first semester of

regular academic study that was higher than the minimum GPA required to avoid academic probation; this finding applied for subjects who scored at or above 450 on TOEFL. The (three-part) TOEFL score of the main sample and the (five-part) TOEFL score of the validation sample were found to correlate .21 ($p < .05$) and .16 (ns), respectively, with undergraduate GPA. TOEFL score did not correlate significantly with graduate GPA for either sample.

There did not appear to be any systematic differences in GPA among language groups or among major areas of study, either at the undergraduate or the graduate level. The Arabic language subgroup, however, obtained a lower mean TOEFL score than did the other language groups in the main sample of subjects. Regression analyses indicated that the graduate versus undergraduate variable was the strongest predictor of first-semester college GPA and that the average CESL grade was a stronger predictor of first-semester college GPA than was the TOEFL score in both the main and validation samples. This result was not unexpected, given that ESL course experience was similar to regular course experience at the university. The regression analyses also showed that prediction of first-semester GPA with TOEFL was better for subjects given the three-part TOEFL than for those given the five-part TOEFL. These analyses also indicated that language group was a significant predictor of university GPA for the validation sample but not for the main sample of subjects.

Graduate school first-semester GPA was not significantly related to any predictor variable except major area. Major area accounted for 29 percent of the variance of first-semester graduate GPA, as higher grades were earned by subjects in the liberal arts, fine arts, and social sciences than in other majors.

A combination of TOEFL score and average CESL grade seemed effective for prediction of undergraduate college GPA. Scores on TOEFL and the average CESL grade appeared to measure different language related phenomena. More research is needed regarding the English language requirements of academic work in college. A discrepancy between the main and validation samples in the importance of language group in determining GPA suggests that more attention needs to be given to how native language may influence English proficiency and academic achievement.

76. Swinton, S. S., & Powers, D. E. (1980). Factor analysis of the Test of English as a Foreign Language for several language groups (TOEFL Research Rep. No. 6; ETS Research Rep. No. 80-32). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 218 921)

Purpose

This study sought to identify the component abilities that are measured by TOEFL and to determine whether there are differences among language groups in the patterns of abilities tested. Toward this end, factor analysis was used to determine the factor structure of the test for each of seven major language groups.

Method

Approximately 500 to 1,000 subjects from each of seven language groups were chosen from the total population of examinees at the November 1976 International TOEFL administration. The language groups were Arabic, Chinese (non-Taiwanese), Farsi, Japanese, and Spanish, along with groupings of African and Germanic languages. Represented in the African group were Yoruba, Ibo, Efik, and other West African languages; and in the Germanic group, German, Dutch, Swedish, Norwegian, Danish, and Icelandic.

Each item in the three-part TOEFL (excluding one item omitted from operational scoring) was used as a variable in the analyses. For each language group, the matrix of tetrachoric interitem correlations was computed. (This computation required that items answered correctly by more than 96 percent of a group be omitted.) Factor analysis was performed, and a four-factor varimax rotation was applied for each language group. An additional factor analysis was also performed using an orthogonal rotation to fit the design structure of the test, as described below.

Results

There was subtantial variation among language groups in mean TOEFL scores, with the Germanic group receiving the highest scores and the Farsi speakers the lowest. Also, the patterns of subtest scores differed somewhat across language groups; speakers of African languages, for example, ranked second on Structure and Written Expression but sixth on Listening Comprehension.

Preliminary data from the factor analysis suggested that three to five factors are appropriate to account for the performance of each

language group except the Germanic group, for which as many as eight factors might be appropriate. The four-factor varimax rotation was applied and, for each language group, the number of items with the highest loadings on each factor was determined. Listening Comprehension items were found to form a separate factor for all language groups. Of the items in the Structure and Written Expression section, the written expression items clustered with the structure items for some native languages but not for others, and the vocabulary items formed a dimension separate from the reading comprehension items in many groups.

The four-factor solutions for each language group were then submitted to an orthogonal rotation to ensure that they would fit the design structure of the test. The first factor was specified as that on which a sample of 14 listening comprehension items showed maximum loadings; the second target factor was defined by maximum loadings of all 14 structure items; and the third target factor was defined by maximum loadings of a sample of 14 vocabulary items. The fourth factor remained unspecified.

A clear, unambiguous factor relating to listening comprehension was identified for all language groups. Other factors, however, were subject to group differences. For the African, Arabic, Chinese, and Japanese groups, the majority of structure, written expression, and reading comprehension items showed their highest loadings on Factor II, while the majority of vocabulary items showed their highest loadings on Factor III. For the Spanish and Germanic groups, on the other hand, the preponderance of structure items and written expression items showed their highest loadings on Factor II, while most vocabulary items and reading comprehension items showed highest loadings on Factor III. For Farsi speakers, these two factors were much less differentiated. For most language groups, there was no obvious association between Factor IV and any particular item type.

Correlations were computed between each factor and the subjects' sex, age, academic status, and the number of times TOEFL had been taken. The correlations that were most consistent across language groups were those between Factor III and (a) age and (b) academic status, suggesting that vocabulary items may be more susceptible than any of the other item types to training or experience.

Conclusions

Three major factors appear to underlie performance on TOEFL. The first involves listening comprehension for all language groups. The nature of the second and third factors depends on the language group in question. For the two Indo-European language groups, whose languages are most similar to English (the Germanic and Spanish groups), the second and third factors correspond with the current format of TOEFL, in which structure and written expression items contribute one subscore and reading

comprehension and vocabulary items contribute another. For most other groups studied--African, Arabic, Chinese and Japanese--reading comprehension items cluster with structure and written expression items, with vocabulary forming a separate dimension.

These results indicate the value of examining not only the total TOEFL score in assessing language competence but section scores as well. The results also suggest that, although the score on the third section of TOEFL is based on a combination of performance on reading comprehension and vocabulary items, there can be value in examining performance on these two item types separately, since for some language groups these item types apparently tap different factors.

An important issue of recent debate concerns the degree to which language proficiency is divisible into separate language skills. The present results suggest that the answer to this issue may depend on the sample used, as the Farsi speakers showed relatively little differentiation among factors, whereas the Germanic speakers showed considerable differentiation, with other groups falling between these extremes. That these two language groups also represented the extremes in average TOEFL scores suggests that the degree of differentiation may relate to overall level of English proficiency.

77. Warner, C. J. (1982). A study of the relationships between TOEFL scores and selected performance characteristics of Arabic students in an individualized competency based training program (Doctoral dissertation, University of Tennessee, Knoxville, 1981). Dissertation Abstracts International, 42, 4810A. (University Microfilms No. DA 8209009)

Purpose

This study addressed the following questions regarding Arabic trainees in a special two-year vocational education program in the United States: (a) How does the distribution of TOEFL scores compare with the distribution of instructors' performance ratings? (b) Is there a difference in distribution of performance ratings given by English language instructors and those given by instructors in individual areas of specialization? (c) How do TOEFL scores compare with students' class rankings? and (d) Do trainees in different job categories differ in TOEFL scores?

Background

Grade-point average (GPA) for foreign students may be affected by their relatively low English proficiency and instructors' attitudes toward them, thus obscuring the students' academic accomplishments. The low relationship between TOEFL and academic success found in some studies may relate to this fact and to the fact that TOEFL measures knowledge of formal English structure but not necessarily ability to communicate. A stronger relationship might be observed if, as in the present study, academic success were measured by instructors' ratings rather than GPA.

Method

Eighty-one individuals from [an unnamed] Middle Eastern country participated in a two-year training program in the United States. The program prepared trainees, both professional and technical, to participate in the development of vocational education centers in their home countries. The subjects attended English-language training programs during the first six months and professional/technical training classes for the remainder of the two years. English training was provided at six U.S. universities, and professional/technical training was provided at four U.S. universities.

Scores on TOEFL [presumably the three-part version] were obtained for all 81 subjects at the end of their English training; except where noted, these are the TOEFL scores used in analyses reported below. TOEFL

had also been administered to 61 of these subjects at the beginning of their English language training to permit assessment of gain. Both sets of TOEFL scores were obtained from U.S. Department of Labor records [the scores were presumably earned in International or Special Center administrations]. In addition, subjects were rated on a five-point scale by their English language instructors and professional/technical instructors on four variables: (a) academic ability, (b) dependability, (c) professional attitude, and (d) ability to communicate.

Results and Conclusions

The overall mean TOEFL score after [illegible] language training was 373.1, (SD = 39.0). The mean change in TOEFL score, for the 61 subjects tested at both times, was 34.6 points (SD = 30.4).

The subjects were placed into five groups based on their TOEFL scores. The middle group was defined by adding one-half SD and subtracting one-half SD from the mean, and score ranges for groups 2 and 4 were equal to one SD. Hence, the TOEFL scores for the five groups were (a) less than 314.6, (b) 314.6 to 353.5, (c) 353.6 to 392.5, (d) 392.6 to 431.5, and (e) greater than 431.5. The numbers of subjects falling into these five groups--1, 23, 40, 12, and 5, respectively--comprised the distribution of TOEFL scores.

The numbers of subjects falling into each of five academic-performance groups (poor, below average, average, above average, and outstanding), as rated by their English language instructors, were 5, 19, 31, 21, and 5, respectively. A chi-square goodness of fit analysis showed that this distribution was significantly different from the distribution of TOEFL scores. Analyses were also performed involving distributions of English instructors' ratings on each of the other three variables described above and professional/technical instructors' ratings on each of the four variables. All of these distributions differed significantly from the TOEFL distribution. [These results do not permit conclusions about the degree of relationship between TOEFL scores and instructors' ratings. Since scores were apparently provided to the investigator without identification by subject name, it was not possible to conduct the types of analyses, such as correlational analysis, that could indicate the degree of match between individuals' scores.]

The distribution of ratings by English language instructors was compared with the distribution of ratings by professional/technical instructors for each of the four factors. For the academic ability factor, these distributions differed significantly, with the first group giving a modal rating of "average" and the second group, "above average." The distributions also differed significantly for the professional attitude and ability to communicate factors, but not for dependability. On all factors except dependability, then the students were rated more

favorably by their professional/technical instructors than by their English language instructors. These results may have to do with differences in frame of reference, as the English language instructors' primary experience is with foreign students preparing to enter college-degree programs, whereas the professional/technical instructors are accustomed to students studying vocational education.

The professional/technical instructors were asked to place their students into three groups: top third, middle third, and bottom third of the class. No significant difference in TOEFL scores among these groups was observed, as the three groups had mean TOEFL scores of 388.5, 362.9, and 357.1, respectively.

Five subgroups of trainees were identified: (a) administrator, coordinator (N = 13); (b) instructor-educator, TV director, media producer/supervisor (N = 13); (c) curriculum developer, media developer, engineering technician, computer technician (N = 7); (d) instructor, maintenance engineer (N = 39); and (e) media operator, technician, recording engineer, illustrator/artist (N = 9). Subjects were placed into three groups based on their post-training TOEFL scores: (a) below 353.6, (b) between 353.6 and 392.6, and (c) above 392.6. A chi-square test of independent samples showed a significant relation between job classification and TOEFL score. Mean TOEFL scores of the five groups were 379.2, 382.2, 401.0, 366.8, and 357.0, respectively. (No significant relation was observed between job classification and gain in TOEFL score due to English training, however.) English proficiency thus seems to have been involved to some extent in selection of trainees for their jobs.

78. Wilcox, L. O. (1975). The prediction of academic success of undergraduate foreign students. (Doctoral dissertation, University of Minnesota, 1974). Dissertation Abstracts International, 35, 6084B. (University Microfilms No. 75-12, 178)

Purpose

This study examined the predictive validity of prior academic record and standardized test scores for students from Hong Kong enrolled at a state university and for students from Vietnam enrolled at several institutions.

Method

The subjects in this study were (a) 99 students from Hong Kong in their freshman year at the University of Wisconsin--Madison between 1968 and 1973 and (b) 84 Vietnamese students in their freshman year at 16 U.S. institutions during 1967 and 1968. The subjects from Hong Kong all received financial support from their families, while the subjects from Vietnam were financed by the Agency for International Development. The Hong Kong group had taken the Hong Kong Certificate of Education Examination (HKCEE), which is used to determine which students will be permitted to enroll in a local two-year course of study leading to enrollment in a university. There are two comparable versions of the HCKEE, one in Chinese and one in English; data from the latter were used in this study. Students take examinations in five to nine subject areas and, in each, are graded on an eight-point scale. For this study, the student's score was the sum of his or her six best scores.

The Vietnamese subjects had taken the Baccalaureate Second Part Examination (Bac II), which is required in South Vietnam for admission to a university and for deferral from the military draft. The Bac II consists of essay questions in philosophy, natural science, physics and chemistry, mathematics, and two languages; and multiple-choice questions in history, geography and civics. The results of each test are weighted and summed to provide a total score on a five-point scale.

All subjects had graduated from secondary school in their home countries and had taken the five-part TOEFL [presumably in International administrations] and the College Board Scholastic Aptitude Test (SAT). [For a brief description of the SAT, see Summary No. 2, Alderman, 1982.] The subjects from Hong Kong had also taken at least two College Board Achievement (Ach) tests. College Board Achievement tests, offered in 15 subject areas, consist of multiple-choice items testing students' knowledge of the particular subjects. The group from Hong Kong took all tests in their native country while the group from Vietnam was tested upon arrival in the United States. The Hong Kong sample was divided into

subgroups by curriculum (liberal arts vs. engineering), year of enrollment, and sex. The Vietnamese sample was divided into those studying in a California university and those studying at any of 12 other U.S. institutions.

Test scores and prior academic record were correlated with first-semester grade-point average (GPA) for Hong Kong subjects, and with first-year GPA for Vietnamese subjects. Multiple regression analysis was then applied to the predictors to determine the best combination of variables for predicting GPA and the relative contribution of each variable. Both Bayesian and least squares regression weights were applied and compared. Bayesian procedures are considered preferable for analyzing data from small samples.

Results and Conclusions

The correlation between the HKCEE and first-semester GPA for Hong Kong subjects was .40. This is slightly less than the correlation between high school performance and college GPA for U.S. students reported in the literature, although the correlation increased to .50 when corrected for restriction of range. The correlation between the BAC II and first-semester GPA for Vietnamese subjects was .34; the correlation with full first-year GPA was .50. For this same group, high school grade average correlated .47 with first-year GPA.

The correlations of these and other standardized tests with GPA are depicted in Table 1. The data show that SAT mathematics (SAT-M) scores were significantly related to GPA in both the Hong Kong and Vietnamese samples. These correlations are comparable to those commonly reported for U.S. students. For the Hong Kong group, the average score on three SAT achievement tests (ACH Ave) functioned as a useful predictor of GPA (r = .49). When added to HKCEE scores, ACH Ave scores contributed significantly to the prediction possible from HKCEE alone. For both groups, the addition of SAT-M to the measure of high school achievement (HKCEE or Bac II) increased the correlation with freshman GPA by about .10.

TOEFL score was unrelated to GPA in the Hong Kong sample but correlated significantly with GPA in the Vietnamese sample. TOEFL did not improve the prediction of GPA when combined with other good predictors for either group.

The two groups differed considerably in the mean and standard deviation of their TOEFL scores (Hong Kong: mean = 570, SD = 41; Vietnamese: mean = 459, SD = 78). Far greater variation in the Vietnamese than the Hong Kong subjects may partly account for the difference in correlation for the two groups. Also, a threshold variable may have been operating. That is, English skills and academic success may be related at low levels of proficiency but unrelated at levels above the threshold value. This

Table 1

Simple and Multiple Correlations of High School Academic Achievement and Test Scores with College GPA

Group	Predictor(s)	Correlation with GPA[a]
Hong Kong	HKCEE	.40*
N = 99	SAT-V	.01
	SAT-M	.41*
	ACH Ave	.49*
	TOEFL	.00
	HKCEE + ACH Ave	.56*
	HKCEE + TOEFL + ACH Ave	.56*
Vietnamese	BAC II	.50*
N = 84	SAT-V	.33*
	SAT-M	.51*
	TOEFL	.46*
	Bac II + SAT-M	.60*
	Bac II + SAT-M + TOEFL	.60*

[a]First-semester GPA for Hong Kong sample; first-year GPA for Vietnamese sample.

*$p < .01$

might explain why the Hong Kong subjects showed no relationship between TOEFL and GPA while the Vietnamese subjects, whose English proficiency was lower, showed a significant relationship between these measures.

The Hong Kong and Vietnamese samples were subdivided according to year of enrollment, sex, and curriculum. None of the resulting correlations for a particular predictor or set of predictors was significantly different from the correlation for the total group. The least squares and the Bayesian regression procedures predicted equally well.

A final analysis for the Vietnamese sample examined whether English proficiency served as a moderator variable in determining the predictive validity of aptitude test scores. This sample was divided into high and low scoring groups on TOEFL, with the midpoint being a score of 450. No significant difference between groups was found in the correlations with GPA for SAT-V or for SAT-M.

79. Wilson, K. M. (1982). A comparative analysis of TOEFL examinee characteristics, 1977-1979 (TOEFL Research Rep. No. 11; ETS Research Rep. No. 82-27). Princeton, NJ: Educational Testing Service.

Purpose

To gain a better understanding of the role of TOEFL in the educational plans of foreign students, this study examined the characteristics and performance of foreign nationals who took TOEFL during the period from September 1977 through August 1979 and reported that they were doing so in order to study in the United States or Canada.

Method

A history file was created using TOEFL program records containing data on personal and academic characteristics provided by examinees on the TOEFL answer sheet. These data include the examinee's sex, age, native language, native country, country of residence, level of intended degree program (and intended department of study for graduate level aspirants), previous TOEFL testing, and pattern of score reporting (i.e., designating or not designating institutions/agencies as score-report recipients). Descriptive statistics on these data were computed. Section and total scores on the three-part TOEFL were determined for subgroups on each variable. Finally, correlational analyses were performed in order to quantify the relationship between membership in relevant subgroups and performance on TOEFL. The analyses included only International and Special Center testing program examinees who designated native countries and indicated that their reason for taking the TOEFL was to study at a university in the United States or Canada. A total of 235,738 examinees met these criteria.

Results and Conclusions

Of the many findings reported in this study, the following are some of the more salient.

A total of 163 countries were named as native countries by two or more degree seekers. The 25 largest native country groups accounted for 84 percent of all degree seekers. Five countries accounted for 54 percent of all degree seekers; Asian and Mideastern countries accounted for 50 percent and 23 percent, respectively.

About half of all degree seekers were prospective undergraduate students, and about half were prospective graduate students. Almost

one-third had taken TOEFL previously. More than seven in 10 were male, and almost three in 10 were tested in the United States or Canada. The typical (median) undergraduate degree seeker was 20 years old, and the typical graduate degree seeker was 25. Only 50 percent designated institutions to receive TOEFL score reports. Sixty percent of the prospective graduate students did not name specific departments of study. Among the 40 percent that did, 50 percent named one of the natural sciences, 20 percent named a business school, 20 percent named one of the social sciences, and 8 percent named a subject in the humanities.

Prospective graduate students performed better on TOEFL (mean total score = 511) than did prospective undergraduates (499). Undergraduates typically outperformed graduate students on the Listening Comprehension section and graduate students typically scored higher on Structure and Written Expression and on Reading Comprehension and Vocabulary. Women tended to outperform men (mean scores = 513 and 502, respectively), and examinees tested in foreign centers did better than those tested domestically (mean scores = 512 and 488, respectively). Repeaters tended to attain a lower mean score (496) than did those taking the test for the first time (505). The 57 percent who did not request that official score reports be sent to institutions received a considerably lower mean score (486) than did the total group (505).

For 129 native country subgroups with 15 or more degree planners, the following relationships were identified. The percentage of nonreporting of scores to institutions was inversely related to TOEFL score ($\underline{r}$ = -.55). The percentage of repeaters was inversely related to TOEFL score ($\underline{r}$ = -.64). Native countries with a higher percentage of women examinees had a higher TOEFL score ($\underline{r}$ = .40). On the average, examinees from developed countries included higher percentages of women, were younger, and had higher TOEFL scores (especially on the Listening Comprehension subtest) compared to examinees from developing countries.

Based on the above findings, the following conclusions seem warranted. Many examinees (perhaps the majority) do not apply to take TOEFL at or around an appropriate time of testing for admission for the following academic year. Those who designate institutions to receive score reports are closer to the time of enrollment than are those who do not. The latter group of examinees are primarily interested in assessing their English proficiency to determine if they should apply for admission now or continue to study English and repeat TOEFL until they attain an acceptable score.

80. Wilson, K. M. (1982). GMAT and GRE Aptitude Test performance in relation to primary language and scores on TOEFL (TOEFL Research Rep. No. 12; ETS Research Rep. No. 82-28). Princeton, NJ: Educational Testing Service.

Purpose

This study was conducted with two main goals: (a) to describe the performance of foreign examinees on the Graduate Management Admission Test (GMAT) and the Graduate Record Examinations (GRE) Aptitude Test in relation to self-reported primary language (English vs. other) and in relation to the performance of the total population of examinees on these tests, and (b) to analyze the relationships between performance on TOEFL and performance on the GMAT and GRE.

Method

Through the use of cross-file matching of data maintained by the GMAT, GRE, and TOEFL programs, a history file was constructed that contained data on the performance of examinees who took either the GMAT and TOEFL or the GRE and TOEFL between September 1977 and August 1979. [The GMAT is briefly described in Summary No. 64, Powers, 1980; the GRE Aptitude Test is briefly described in Summary No. 4, American Association ..., 1971; TOEFL scores were presumably obtained via International or Special Center administrations.] Separate analyses were conducted for foreign candidates who indicated on their GMAT or GRE answer sheets that English was their primary language (EPL) or second language (ESL). EPL examinees were those who reported that they communicated better or were more fluent in English than in any other language. The subgroups were further broken down according to self-reported citizenship status (U.S. vs. foreign).

The GMAT consists of verbal (GMAT-V) and quantitative (GMAT-Q) aptitude sections, and the GRE consists of verbal (GRE-V), quantitative (GRE-Q), and analytical (GRE-A) aptitude sections. For each group of examinees, means and standard deviations were obtained for section and total scores on each test. Also, a linear correlation was computed between the score for each section of the GMAT or GRE and the TOEFL score.

Results and Conclusions

GMAT/TOEFL

Over 5,000 examinees took both the GMAT and TOEFL during the period in question. Table 1 shows mean scores on the two tests. Also indicated

are percentile ranks showing the standing of the examinees either (a) on the GMAT relative to all examinees taking the GMAT between October 1977 and July 1980, or (b) on TOEFL relative to all prospective graduate applicants taking TOEFL between September 1978 and August 1980. The typical GMAT/TOEFL examinee apparently was well above average in English language proficiency. The TOEFL mean (553) for this group was at the 77th percentile in the distribution of scores for all prospective graduate-level examinees. Percentile ranks on GMAT subscores were considerably lower for this select group of TOEFL examinees, except for the score on the quantitative section, which was above the mean for all examinees on the GMAT. While the foreign EPL examinees (from non-English-speaking countries) had higher verbal scores than the ESL examinees, they were still substantially below the mean for all GMAT examinees.

Table 1

Means and Percentile Ranks on TOEFL and GMAT for TOEFL/GMAT Examinees

	Foreign EPL (N = 1197)		Foreign ESL (N = 3918)		EPL & ESL (N = 5115)	
	Mean	Rank	Mean	Rank	Mean	Rank
GMAT-Verbal	20.2	25	15.7	13	16.8	18
GMAT-Quantitative	27.5	52	29.0	60	28.6	60
GMAT-Total	418.0	31	389.8	23	396.4	26
TOEFL Total	589.4	89	541.8	71	552.9	77
TOEFL LC[a]	58.2	83	54.8	71	55.6	75
TOEFL S & WE	58.7	88	53.0	68	54.3	72
TOEFL RC & V	59.9	88	54.8	67	56.0	74

[a]TOEFL sections, abbreviated here and in Tables 2 and 3, are LC: Listening Comprehension; S & WE: Structure and Written Expression; and RC & V: Reading Comprehension and Vocabulary.

The correlations between section and total scores on the GMAT and TOEFL were nearly identical to those reported by Powers (1980). They show that the TOEFL scores were strongly related to the GMAT verbal scores but only moderately related to the quantitative scores. The correlation between TOEFL and the GMAT-V was slightly higher for the EPL group (r = .76) than for the ESL group (r = .68). However, the EPL group attained higher scores on the GMAT-V than did the ESL group. Thus, the lower

correlation for the ESL group may have resulted from the fact that this group had lower and more homogeneous scores on the GMAT, thus producing a possible cellar effect. Also, because of the EPL examinees' greater proficiency in English, their performance may have been more reliably assessed by the GMAT. Although it is not possible to identify precisely the cause of the discrepancy in the correlations for the EPL and ESL groups, the differences are small enough that, for purposes of interpreting GMAT scores in light of TOEFL scores, separate treatment of EPL and ESL subgroups may not be necessary.

GRE/TOEFL

Table 2 shows the means and percentile ranks for nearly 4,000 GRE/TOEFL examinees. Reference groups for deriving the percentile ranks here are (a) for TOEFL, all graduate-level candidates who took TOEFL between October 1977 and August 1980, and (b) for the GRE, all candidates who took the GRE between October 1977 and June 1980. The data show that the typical GRE/TOEFL examinee was above average in English language proficiency, as reflected in TOEFL performance (80th percentile). Performance on the GRE, in contrast, was considerably lower for this subgroup of examinees than for all GRE examinees on the verbal and analytical aptitude sections, although it was above average for the quantitative section. While the foreign EPL examinees exhibited higher ranks on TOEFL than did their ESL counterparts (84 vs. 76), they were still substantially below the mean for all GRE examinees on the GRE verbal and analytical subtests. The foreign EPL candidates performed better than the ESL group on the verbal section of the GRE but not on the other two sections.

Table 2

Means and Percentile Ranks for TOEFL/GRE Examinees

	Foreign EPL (N = 1366)		Foreign ESL (N = 2422)		EPL & ESL (N = 3808)	
	Mean	Rank	Mean	Rank	Mean	Rank
GRE-Verbal	386	23	345	16	360	18
GRE-Quantitative	603	72	606	72	605	72
GRE-Analytical	406	24	400	23	402	23
TOEFL Total	573	84	552	76	559	80
TOEFL LC	56	76	55	72	55	72
TOEFL S & WE	57	83	54	72	55	76
TOEFL RC & V	59	84	56	74	57	78

Table 3 depicts the relationships between GRE and TOEFL scores for the EPL, ESL, and combined groups of GRE/TOEFL examinees. The combined-group data show that TOEFL total score was strongly related to the GRE verbal score (r = .70), moderately related to the GRE analytical score (r = .62), and only weakly related to the GRE quantitative score (r = .21). The correlations between TOEFL and the GRE verbal and analytical measures were slightly higher for the EPL than the ESL group. Among TOEFL sections, Listening Comprehension consistently correlated lowest with the GRE scores. This finding is not surprising since the GRE does not assess listening skills. Of the three TOEFL sections, Reading Comprehension and Vocabulary showed the highest correlation with the GRE verbal scores, which is not surprising either, since reading is more consistently required for successful performance on all three sections of the GRE than is listening or aspects of writing tapped by the TOEFL Structure and Written Expression section. In general, the pattern of correlations supports the construct validity of the three-section TOEFL.

Table 3

Correlations between Scores on TOEFL and Scores on the GRE Aptitude Test for EPL, ESL, and Combined Group

	GRE-Verbal			GRE-Quantitative			GRE-Analytical		
	EPL	ESL	Comb.	EPL	ESL	Comb.	EPL	ESL	Comb.
TOEFL Total	.74	.66	.70	.21	.21	.21	.64	.61	.62
TOEFL LC	.60	.48	.52	.14	.08	.10	.53	.47	.49
TOEFL S & WE	.69	.56	.63	.20	.22	.21	.58	.52	.53
TOEFL RC & V	.72	.67	.70	.23	.25	.24	.61	.58	.59

A general conclusion suggested by the data is that limited English proficiency is a major factor contributing to the depressed scores of foreign examinees on the GRE and the GMAT.

81. Woodford, P. E. (1982). The Test of English for International Communication (TOEIC). In C. Brumfit (Ed.), English for International Communication. Oxford: Pergamon Press. (ERIC Document Reproduction Service No. ED 198 146)

Purpose

This paper provides a basic overview of the Test of English for International Communication (TOEIC).

Method

The TOEIC is a secure multiple-choice test of the ability to understand spoken and written English that is published by Educational Testing Service. It consists of two sections: Listening Comprehension and Reading Comprehension. Each section contains 100 items. Separate scaled scores are provided for each section. Section scores range from 5 to 495; thus, total scaled scores range from 10 to 990. The first form of the TOEIC was administered to 2,710 Japanese adults in December 1979. From this population, several samples representing five different section score ranges were selected. Section scores were compared with scores obtained on direct measures of listening comprehension, speaking, reading, and writing. These included a measure of the ability to answer questions asked in the native language by a Japanese examiner, a similar exercise involving comprehension of written English, a letter-writing exercise, and an oral English proficiency interview. One hundred eighty-seven of the TOEIC examinees also took TOEFL in a special administration.

Results and Conclusions

The subjects were divided into five proficiency levels according to their section scores on the TOEIC. The mean TOEIC score of each group was then contrasted with the mean score on each direct measure of language skills and on the Listening Comprehension and Reading Comprehension sections of TOEFL. Although no correlation coefficients were computed, mean scores on all the direct measures and on TOEFL Listening and Reading Comprehension showed a consistent relationship with mean TOEIC section and total scores, as shown in comparisons of the five groups.

82. Yalden, J. (1978). TOEFL and the management of foreign student enrollments. TESL Talk, 9, 16-21.

Purpose

This essay considers the issue whether the TOEFL is an appropriate instrument for making admissions decisions for foreign applicants to Canadian colleges.

Discussion

In using TOEFL scores, two major issues must be considered: (a) how to interpret the scores and (b) whether TOEFL provides appropriate information. Regarding score interpretation, the TOEFL manual states five principles for the use of TOEFL in admissions decisions: (a) consider part scores as well as the total score; (b) consider the different kinds and levels of proficiency required in different fields and levels of study and the colleges' resources for developing students' English language skills; (c) do not use "cutoff" scores; (d) use all available relevant information, not just TOEFL scores; and (e) assemble information on the validity of admissions decisions based on TOEFL scores (Educational Testing Service, 1973). The manual also reports score ranges found acceptable by institutions.

It has been argued that Educational Testing Service (ETS) is inconsistent in its instructions, stating the above-mentioned principles while, at the same time, offering acceptable score ranges to assist in score interpretation. Actually, the manual is clear in cautioning users against misuse of TOEFL scores; yet there is some evidence that certain cautions provided in the manual are being ignored. In a survey of Canadian colleges and universities that admit foreign students for a particular program, a fixed score on TOEFL was mentioned as a condition for acceptance by almost all respondents, without reference to part scores or to use of other measures.

In seeking to ensure the proper use of TOEFL scores, it is essential to consider the second of the two main issues mentioned above: whether TOEFL provides appropriate information. It has been argued that TOEFL, as an American-made instrument, is not appropriate for use in Canada. This is not a major problem, however, since Canadian English is similar enough to the type of English tested by TOEFL. The argument that TOEFL is an unreliable test is also inappropriate, as research has shown that students' scores do not vary greatly across administrations within a specified time frame.

Arguments about TOEFL's validity have also been raised. Studies at ETS and elsewhere have addressed several aspects of validity. Concurrent

validity has been shown in high correlations of TOEFL with similar tests of English language proficiency as well as with quite different types of test, such as the cloze test. Concerning predictive validity, relatively low correlations have been observed between TOEFL and later grade-point average (GPA). ETS notes, however, that prediction of GPA is not an appropriate criterion for evaluating TOEFL.[1] The fact that TOEFL differentiates among foreign students but not among native American students (Angoff & Sharon, 1971) is taken by those authors as evidence of construct validity, in showing that TOEFL avoids the types of discriminations for which it was not intended.

It must be asked whether the TOEFL subtests measure the skills they are intended to measure, in light of findings such as that of Darnell (1970) that the cloze test correlates more highly with the Listening Comprehension section of TOEFL than with any other section. To understand the origin of TOEFL subtests requires looking at different trends in language assessment.

Three trends have been identified.[2] During the prescientific trend, issues of objectivity and reliability were ignored and teachers were assumed capable of judging students' skill. The second, psychometric-structuralist trend, grew out of a school of thought in which phonology, morphology, syntax, and semantics were believed to comprise a hierarchy of speech levels and that these levels should be assessed separately, as should the four skills, listening, speaking, reading, and writing.[3] TOEFL was developed out of this "discrete-point" testing approach and contains subsections to measure separate skills.

The third, integrative-sociolinguistic trend, involves testing of overall language proficiency, according to the view that an underlying general language competence is common to all of the modalities of language use (cf., articles by Spolsky and Oller cited in footnotes). In recent studies, "integrative" testing techniques derived from this view have been found to intercorrelate at high levels.

It is not clear at this stage whether the discrete-point or integrative approach is best, and perhaps both approaches have their merits. What is needed is a functional definition of the levels of language

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[1] Educational Testing Service. (1970). TOEFL manual of interpretive information. Princeton, NJ: Author.

[2] Spolsky, B. (1978). Introduction: Linguists and language testers. In B. Spolsky (Ed.), Approaches to language testing. Papers in applied linguistics, advances in language testing series: 2. (Pp. 5-9). Arlington, VA: Center for Applied Linguistics.

[3] Oller, J. W., Jr. (1976). A program for language testing research. In H. D. Brown (Ed.), Papers in second language acquisition. Ann Arbor, MI: Language Learning Special Issue No. 4.

competence required for academic study. Until such a definition can be reached, discrete point testing is the only available alternative. It is hoped that a different type of testing approach can eventually be developed based on functional statements for each situation in which proficiency is to be determined. Meanwhile, those involved in admissions decisions should be made aware of TOEFL's purpose and how TOEFL scores should be interpreted.

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